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**D E C I S I O N**  
of 16 December 2005

**Case Number:** T 0589/01 - 3.3.02

**Application Number:** 95912039.5

**Publication Number:** 0752842

**IPC:** A61K 7/42

**Language of the proceedings:** EN

**Title of invention:**

Artificial tanning compositions having improved stability

**Patentee:**

THE PROCTER & GAMBLE COMPANY

**Opponent:**

Merck Patent GmbH

**Headword:**

Artificial tanning compositions/PROCTER & GAMBLE

**Relevant legal provisions:**

EPC Art. 52(1), 54(1), (2), (3), (4), 56, 100(a), 106, 107, 108  
EPC R. 64

**Keyword:**

"Novelty (yes): claimed subject-matter neither expressly nor by implication disclosed in the cited state of the art under Article 54(2) or 54 (3) and (4) EPC"

**Decisions cited:**

T 0181/82, T 0195/84, T 153/85, T 0059/87, T 0572/88,  
T 0450/89, T 0677/91, T 0164/92, T 0511/92, T 0465/95

**Catchword:**

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Case Number: T 0589/01 - 3.3.02

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.02  
of 16 December 2005

**Appellant:** Merck Patent GmbH  
(Opponent) Postfach  
D-64271 Darmstadt (DE)

**Representative:** -

**Respondent:** THE PROCTER & GAMBLE COMPANY  
(Proprietor of the patent) One Procter & Gamble Plaza  
Cincinnati, OH 45202 (US)

**Representative:** UEXKÜLL & STOLBERG  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 15 March 2001  
rejecting the opposition filed against European  
patent No. 0752842 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** U. Oswald  
**Members:** G. Rampold  
P. Mühlens

## Summary of Facts and Submissions

I. The respondent is proprietor of European patent No. 0 752 842 ("the patent") which was granted with effect from 11 November 1998 on the basis of European patent application No. 95 912 039.5 (International application No. PCT/US95/02641) filed on 3 March 1995, claiming priority from an earlier US application on 29 March 1994 (Serial No. 219 053). The patent relates to artificial tanning compositions having improved stability. Claims 1 to 9 as granted read as follows:

- "1. An artificial tanning composition having improved stability comprising:
  - (a) from 0.1% to 20% dihydroxyacetone,
  - (b) from 0.025% to 5% of a salt selected from the group consisting of metabisulfite salts, sulfite salts, hydrogen sulfite salts, and mixtures thereof, and
  - (c) a topical carrier.
  
2. A composition according to Claim 1 wherein said metabisulfite, sulfite, and hydrogen sulfite salts are selected from alkali metal salts, alkaline metal salts, ammonium salts, and mixtures thereof, preferably wherein said metabisulfite, sulfite, and hydrogen sulfite salts are selected from sodium salts, potassium salts, ammonium salts, and mixtures thereof.
  
3. A composition according to Claim 1 wherein said salt is a metabisulfite salt, preferably wherein said metabisulfite salt is selected from alkali metal metabisulfite salts, alkaline metal

metabisulfite salts, ammonium metabisulfite salts, and mixtures thereof, more preferably wherein said metabisulfite salt is selected from sodium metabisulfite, potassium metabisulfite, ammonium metabisulfite, and mixtures thereof, and most preferably wherein said metabisulfite salt is sodium metabisulfite.

4. A composition according to Claim 3 comprising from 0.05% to 5% of said metabisulfite salt, preferably from 0.05% to 1% of said metabisulfite salt, more preferably from 0.1% to 1% of said metabisulfite salt, and most preferably 0.25% of said metabisulfite salt.
5. A composition according to Claim 4 comprising from 2% to 7% dihydroxyacetone, preferably from 3% to 6% dihydroxyacetone.
6. A composition according to Claim 1 wherein said composition further comprises from 0.5% to 20% of a sunscreen selected from 2-ethylhexyl N,N-dimethyl-p-aminobenzoate, 2-ethylhexyl p-methoxycinnamate, octocrylene, octyl salicylate, oxybenzone, 2-phenyl-benzimidazole-5-sulfonic acid, 4,4'-methoxy-t-butyl-dibenzoylmethane, 3-(4-methylbenzylidene) camphor, 3-benzylidene camphor, 4-N,N-(2-ethylhexyl)methylamino-benzoic acid ester with 4-(2-hydroxyethoxy)dibenzoyl-methane, titanium dioxide, zinc oxide, iron oxide, and mixtures thereof.
7. A composition according to Claim 1 wherein said composition further comprises from 0.1% to 10% of

an amino acid or pharmaceutically acceptable salt thereof selected from alanine, valine, leucine, isoleucine, proline, methionine, phenylalanine, tryptophan, glycine, serine, threonine, cysteine, tyrosine, asparagine, glutamine, lysine, arginine, histidine, and mixtures thereof, preferably wherein said composition further comprises from 0.1% to 10% of an amino acid or a pharmaceutically acceptable salt thereof selected from lysine, arginine, histidine, and mixtures thereof, and more preferably wherein said composition further comprises from 0.1% to 10% of an amino acid or a pharmaceutically acceptable salt thereof selected from L-lysine, L-lysine hydrochloride, L-lysine dihydrochloride and mixtures thereof.

8. The use of a composition in the manufacture of a medicament for providing an artificial tan to human skin said composition comprising an effective amount of a composition according to any of Claims 1 to 5 and 7.
9. The use of a composition in the manufacture of a medicament for providing an artificial tan to human skin and protecting human skin from the harmful effects of ultraviolet radiation comprising an effective amount of a composition according to Claim 6."

II. Opposition was filed by the present appellant on 9 August 1999 calling for the patent to be revoked as regards claims 1 to 6 and 8 and 9 on grounds of lack of novelty under Article 54(3) and (4) EPC over the state of the art according to citation (2).

III. Of the numerous documents and other pieces of evidence introduced into the first instance opposition proceedings the following are referred to in the present decision:

- (2) EP-A-0 622 070, filing date 19 April 1994;
- (3) Priority Document (DE 4 314 083 of 29 April 1993) of citation (2);
- (2/3) Content of (2) entitled to the priority (3);
- (4) "Ullmanns Encyklopadie der Technischen Chemie", 4. neubearbeitete und erweiterte Auflage, Band 12, Verlag Chemie GmbH, Weinheim/Bergstrasse, 1976, S. 564-565;
- (5) "Dihydroxyaceton for cosmetics", Merck, May 1988;
- (6) W. Umbach, "Cosmetics and Toiletries - Development, Production and Use", Ellis Horwood Ltd., Chichester, 1991, pp. 106-108;
- (7) Cosmetics & Toiletries 107 (1992) 133, 147, 148
- (8) W092/17159;
- (9) W093/16683;
- (11) EP-A-0 425 324.

IV. The opposition division, in a decision pronounced at the close of the oral proceedings on 30 January 2001, with written reasons notified on 15 March 2001, rejected the opposition. The essence of the reasoning in the opposition division's decision was as follows:

**(A)** The disclosure of citation (2) which was entitled to the priority date was comprised in the state of the art under Article 54(3) and (4) EPC. In this respect it

was noted in the decision under appeal that Application Examples ("Anwendungsbeispiele") A to F described at pages 5 to 10 of (2) were not entitled to claim priority from the priority document (3) and were thus entitled only to the European filing date of 19 April 1994.

**(B)** In the impugned decision it was recalled that both citation (2) in claim 6 and the priority document (3) in corresponding claim 9 disclosed powder mixtures, containing 45-99% by weight, preferably 80-90% by weight of a compound having skin-tanning properties, preferably dihydroxyacetone (hereinafter referred to as DHA), 0.1-50% by weight, preferably 1-20% by weight of an agent which forms sulfite ions, preferably a metal sulfite salt or a metal bisulfite salt, and 0.1-5% by weight of a stabilising agent, relative to the total amount of said powder mixtures. It was also recalled that (2/3) taught the use of such powder mixtures for the preparation of artificial cosmetic tanning compositions comprising a topical carrier and that the artificial tanning compositions were present in (2/3), *inter alia*, in the form of milks, lotions, creams, emulsions, or aerosols.

It was further mentioned in that decision that Examples 1 to 12 of (2/3) described powder mixtures, comprising as the relevant active ingredients 89.5 g DHA and 10 g sodium sulfite or sodium disulfite (Examples 1 to 4) or 98 g DHA and 10 g sodium sulfite or sodium disulfite (Examples 5 to 12), and their use for the preparation of artificial tanning compositions.

(C) However, the decision under appeal left no doubt that (2/3) certainly did not explicitly refer to the specific amounts (weight percentages) of either DHA or the sulfite salt present in the final artificial tanning compositions disclosed in (2/3). As regards novelty, the crucial question to be considered was thus, in the opposition division's judgment, whether or not the opponent (appellant) was correct in its contention that the skilled person would have recognised artificial tanning compositions comprising both DHA and the sulfite salt **in the specific amounts** (weight percentages) claimed in claim 1 of the patent (see I above) as being clearly and unequivocally implied by the disclosure of (2/3), if this disclosure was interpreted in the light of the references in citations (4) to (9) and (11) to conventional artificial tanning compositions comprising DHA in amounts of, for example, 2% to 5% by weight or 3% to 6% by weight.

(D) The opposition division mentioned in the decision under appeal that none of the cited documents (4) to (9) and (11) disclosed the specific combination of DHA and a sulfite forming agent (sulfite salt) as the active principle of artificial tanning compositions and concluded therefrom that the amount (weight percentage) of DHA recited in claim 1 of the attacked patent could not be considered as clearly implied by the disclosure of the prior art of (2/3), even if this disclosure was interpreted in the light of the disclosures of documents (4) to (9) and (11).

The opposition division concluded further that the particular weight ratios of DHA to the sulfite salt,



which could be derived from Examples 1 to 12 of powder mixtures in (2/3), were not necessarily maintained essentially constant when these powder mixtures of (2/3) were converted into cosmetically acceptable artificial tanning compositions. It followed that, even if the amount of DHA was considered as a feature which for the skilled person was implicit in what was explicitly disclosed in (2/3), the amount (weight percentage) of the sulfite salt recited in claim 1 of the patent could also not be inferred directly and unequivocally from the disclosure in (2/3). The opposition division thus found that the disclosure of (2/3) did not prejudice the maintenance of the patent as granted.

- V. An appeal against this decision was filed on 21 May 2001, with the appeal fee being paid at the same time. The statement of grounds of appeal was filed by facsimile of 13 July 2001, received by the EPO on 14 July 2001.
- VI. On 30 January 2002, the respondent (patent proprietor) filed a reply to the appellant's statement of grounds of appeal.
- VII. By a letter dated 10 August 2004, the appellant filed further submissions, including the following citations:
- (12) JP-A-05/30031 and English translation; since the correctness of the translation has never been called in question by the parties, in this decision reference is made to this translation;

- (13) R. G. Harry, "Cosmetic Materials", Volume 2, 1963, 178-179;
- (14) Kosmetikverordnung, "Bundesgesetzblatt für die Republik Österreich", 16 August 1990.

VIII. In advance of the oral proceedings, the respondent submitted with its letter of 15 November 2005 further observations, including auxiliary requests I to IV. Both parties were represented at the oral proceedings held before the board of appeal on 16 December 2005.

IX. The appellant's arguments in writing and during oral proceedings, in so far as they are relevant to the present decision, may be summarised as follows:

(1) The state of the art according to (2/3) disclosed powder mixtures containing DHA and a sulfite forming agent, e.g. a metal sulfite salt or a metal bisulfite salt. In (2/3) it was also disclosed that said powder mixtures were preferably used for conversion into artificial cosmetic tanning compositions. With respect to the novelty of the claimed subject-matter in the patent, the only question to be answered was thus whether or not the specific amounts (weight percentages) of both DHA and the sulfite agent recited in claim 1 of the patent were features which for the skilled person were implicit in what was explicitly disclosed in (2/3). In contrast to the finding of the opposition division in the impugned decision, the appellant was of the opinion that the relevant amounts of both components should be regarded as implied by the disclosure of (2/3), in the light of the skilled person's knowledge of the state of the art according to citations (4) to (9), (11), (13) or (14).

(2) As regards the amount (weight percentage) of DHA present in artificial tanning compositions disclosed in (2/3), the appellant essentially argued that the prior art of (2/3) related to the use of the powder mixtures in the manufacture of cosmetic compositions useful for providing an artificial tan to the human epidermis ("zur Bräunung der menschlichen Epidermis"). It further argued that, as it was evident that in the compositions of (2/3) the active agent having skin-tanning properties was DHA, the reference in (2/3) to the intended use or purpose of the known cosmetic compositions ("for providing an artificial tan to human epidermis") had to be construed as including a definition in general terms of the amount of DHA present in artificial tanning compositions disclosed in (2/3). This definition related to amounts of DHA required to produce a tanned appearance, i.e. an artificial tan to human skin and, accordingly, to amounts normally present in conventional artificial self-tanning compositions such as those disclosed in documents (4) to (9). These documents provided evidence that conventional self-tanning compositions normally contained DHA in an amount up to 5% by weight, preferably from 2 to 5% by weight or from 3 to 6% by weight.

(3) In the appellant's opinion, the disclosure of citation (11) was particularly relevant for determining the available information content of the disclosure of (2/3). Since (2/3) contained in the introductory portion of the description a reference to prior-art document (11) which disclosed compositions intended for imparting to the skin an artificial colouration similar

to the colouration resulting from natural tanning, the disclosure of (11) could and would be used, in the appellant's opinion, by those skilled in the art to interpret the general definition of the amount of DHA ("for providing an artificial tan to human epidermis") present in artificial tanning compositions disclosed in (2/3). It was stated in the cited document that the specific artificial tanning compositions disclosed in (11) contained 0.1 to 10%, preferably 1 to 6% DHA (see page 3, lines 5 to 8; claims 3 and 4); in the examples of (11) the use of amounts of DHA of 2%, 3%, and 5% by weight were explicitly disclosed. In the appellant's opinion, the state of the art of (11) was so close to the claimed subject-matter in the patent as to give the skilled person a direct pointer to the amounts of DHA normally used in artificial tanning compositions and that the specific amounts of DHA exemplified in (11) might accordingly be considered as much part of the disclosure of (3/2) as though implicitly contained therein. The claimed range of the amount (weight percentage) of DHA was thus without novelty.

(4) As regards the amount (weight percentage) of the agent which forms sulfite ions present in the artificial tanning compositions disclosed in (2/3), the appellant argued that, by indicating the specific amount of both DHA (89.5 g or 98 g) and the sulfite forming agent (10 g) present in the powder mixtures described in Examples 1 to 12 of (2/3), the weight ratio of DHA to the sulfite forming agents was also explicitly disclosed for the powder mixtures described in these examples. The appellant drew therefrom the following conclusion: if a skilled person was converting a powder mixture disclosed in the above-

mentioned examples of (2/3) into a final cosmetic self-tanning composition and, in doing so, ensured or selected a specific value for the amount (weight percentage) of DHA in that final composition, then the amount (weight percentage) of the sulfite forming agent in that composition could easily be calculated from the known weight ratio of DHA to the sulfite forming agent. [In this respect, the appellant put forward a calculation showing that, if the weight ratio of DHA to the sulfite forming agent was 8.95:1 (see Examples 1 to 4 of (2/3)) and the amount of DHA in the self tanning composition of (2/3) was selected to be, for example, 5% by weight, then the calculated amount (weight percentage of the sulfite forming agent would be  $(5:8.95) = 0.56\%$ ]. The appellant's final conclusion was that since the amount of DHA in the cosmetic self-tanning composition was implicitly disclosed in (2/3) (see (3) above), the amount of the sulfite forming agent was necessarily also disclosed. Accordingly, the disclosure of (2/3) prejudiced the maintenance of the patent on the grounds of lack of novelty.

(5) In the appellant's opinion, there could be no doubt that citation (12) disclosed compositions falling within the scope of present claim 1 and was thus also prejudicial to the novelty of the claimed subject-matter in the patent. The appellant requested that, in view of the relevance of the disclosure of (12) to the legal validity of the Patent, citation (12) should be taken into consideration by the board, in spite of its filing at this late stage in the proceedings (see VII above).

X. The respondent disagreed, relying essentially on the following arguments:

(6) The respondent did not deny that the state of the art according to (2/3) disclosed powder mixtures comprising DHA and sulfite ions. It also agreed that the cited documents suggested using such **powder mixtures** as **intermediate products** for the preparation of cosmetic compositions intended for imparting to the human skin an artificial colouration or tan (see (2), page 3, lines 11 to page 4, line 5; (3), top of page 5 to page 6, line 22 ). However, the respondent emphasised that (2/3) failed to disclose any specific example of an artificial tanning composition and also failed to disclose either explicitly or by implication the amount (weight percentage) of at least one of DHA or the sulfite salt contained in the known artificial tanning compositions of (2/3). The respondent also drew attention to the fact that in the course of the proceedings before the first instance and again in the statement of the grounds of appeal the appellant itself had admitted that the prior art of (2/3) was entirely silent about the amount of DHA and likewise the amount of the sulfite salt present in the artificial tanning compositions of (2/3). In this context the respondent repeated that, according to well-established legal principles, laid down in the consistent case law of the boards of appeal, the subject matter of a claim lacked novelty over a prior-art document only **if each and every feature** of the subject-matter claimed could be inferred directly and unequivocally from that prior-art document in isolation. As this was clearly not the case here, for this reason alone, the present appeal had to be dismissed.

(7) The appellant's allegation that the specific amount (weight percentage) of DHA present in the final artificial tanning compositions of (2/3) was part of the technical teaching implicitly derivable from the disclosure of (2/3), if this disclosure was interpreted in the light of the available information content of any of citations (4) to (9), (11), (13) or (14), was based, in the respondent's opinion, on a clear misinterpretation of the relevant case law of the boards of appeal. The same applied to the appellant's further allegation that, once the amount (weight percentage) of DHA in the tanning compositions of (2/3) was given, it was then only a trivial matter of calculation to determine the amount (weight percentage) of the sulfite salts in said compositions from the weight ratio of DHA to the sulfite salts in the powder mixtures disclosed as intermediate products in Examples 1 to 12 of (2/3).

As regards the appellant's first allegation, this did not, in the respondent's judgment, take account of the fundamental legal principle that, for a prior-art document to be novelty-destroying, **all elements of the subject-matter claimed must be disclosed in that single document**. This principle had been confirmed by a vast number of decisions by the boards of appeal of the EPO. In this connection the respondent noted that in the first instance proceedings reference was already made to decision T 153/85 (OJ EPO 1988, 1) which held that *"when assessing novelty, the disclosure of a prior document must be considered in isolation"* (see especially Headnote III).

As regards the appellant's second allegation, this did not pay attention to the equally fundamental legal principle that a prior art disclosure was not prejudicial to novelty, unless the subject-matter claimed can be inferred **directly and unequivocally** from that disclosure. The latter was not the case here, as shown below.

(8) None of the publications (4) to (9), (11), (13) or (14) cited by the appellant in the first instance opposition or the subsequent appeal proceedings disclosed artificial tanning compositions comprising a mixture of DHA and sulfite salts and thus none represented relevant prior art in relation to the claimed subject-matter in the patent. Contrary to the appellant's view, the disclosure of citation (11) - insofar as it related to the concentration of DHA in artificial tanning compositions - could not be combined with the teaching of (2/3). In (2/3) it was clearly stated that (11) related to specific adjuvants, which were added to enhance the artificial self-tanning effect of DHA (see (2), page 2, lines 14 and 15; (3), page 1, last paragraph). Contrary to the appellant's assertions, citation (11) was clearly not cited in (2/3) to supplement the disclosure of (2/3) by indicating certain specific DHA concentrations in artificial tanning compositions.

(9) The appellant's assertions that DHA was generally used in the artificial tanning compositions disclosed in the cited documents only in amounts (weight percentages) of up to 5% or 6%, because the use of larger amounts (weight percentages) of DHA in artificial tanning compositions was prohibited by



national law or regulations in certain countries such as Austria [see (5); (14)] or Switzerland [see (5)], were in themselves contradictory. Citation (11), for example, to which the appellant specifically referred, disclosed artificial tanning compositions containing DHA in an amount of up to 10% (see claims 3 and 4). All the documents cited by the appellant clearly demonstrated the broad variation in the amounts of DHA conventionally used in artificial tanning compositions.

(10) The opposition division was entirely correct in its opinion that the incomplete disclosure of (2) and (3) could not be supplemented by reference to (11) or to any other prior art document, as a lack of novelty objection must be based on a single document only. The contrary conclusion maintained by the appellant was based on the following two assumptions (a) and (b) for which no basis could be found in the disclosure of the patent:

- (a) the assumption that the concentration of DHA in the novel tanning compositions provided by the patent must be the same as the concentration of DHA in conventional artificial tanning compositions comprising only DHA, in the absence of sulfite salts; there was, however, absolutely no basis for this assumption. Interactions between DHA and other components of the claimed new compositions might produce, for example, an enhanced or reduced self-tanning effect, or a reduction in toxicity, or any other effects and might thus require the use of DHA in higher or lower concentrations than previously used to achieve the desired self-tanning effect;

(b) the assumption that the weight ratio of DHA to the sulfite salts provided for powder mixtures in (2/3) was necessarily maintained constant when an artificial tanning composition was produced from these powder mixtures; this assumption neglected, for example, what was an obvious option in the present case, namely that the weight ratio of DHA to the sulfite ions could be altered or adjusted by the addition of a certain amount of either sulfite salt or DHA, as required, when formulating the powder mixtures of (2/3) into a final artificial cosmetic tanning composition.

(11) The fact that the appellant had based its objections of lack of novelty on a number of assumptions demonstrated clearly, in the respondent's opinion, that the claimed subject-matter was not directly and unambiguously derivable from the cited state of the art.

(12) Citation (12) was allegedly published in December 1993 and thus represented prior art under Article 54(2) EPC. Whereas the patent related to compositions to be applied to the skin, citation (12) related to compositions to be applied to the hair and, accordingly, to a different technical field. It was even entirely uncertain whether or not any of the compositions disclosed in (12) were suitable for application to the skin. In contrast to the claimed composition in the patent, the compositions of (12) consisted of two distinctly different and separate agents (A) and (B) which were applied to the hair one after the other. Since the late filed citation (12) was

not even *prima facie* relevant to the question of novelty in the present case, it should not be allowed into the proceedings.

- XI. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that the appeal be dismissed (main request), or that the patent be maintained in amended form on the basis of one of the auxiliary requests I to IV filed by letter dated 15 November 2005.

### **Reasons for the Decision**

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. *Admissibility of late filed documents*
  - 2.1 As is apparent from paragraphs III and V to VII above, citations (12) to (14) were filed late, irrespectively of whether "late" is taken as meaning after the end of the opposition period, after the end of the opposition proceedings, or after the grounds of appeal were filed in the appeal proceedings.
  - 2.2 The respondent requested that the late-filed citations (12) to (14) not be admitted into the proceedings.
  - 2.3 It is well-established by the jurisprudence of the boards of appeal that, in considering the admissibility of late-filed evidence, account is to be taken of *inter*

*alia* whether it could have been filed earlier and if so the reason why not, and of its relevance and in particular whether it has a greater relevance to the issues than the material already on file (see, generally, "Case Law of the Boards of Appeal of the European Patent Office", 4th edition, 2001, pages 324 to 333). Thus, in principle any new evidence filed on appeal is exceptional *per se* and its admissibility is a matter for the exercise of the board's discretion. In addition to these general principles, the board must also ensure that late filing does not take another party by surprise and that, if late evidence is to be admitted, the other party or parties have sufficient time to consider it and, as appropriate, reply with evidence of their own.

- 2.4 The board considers that, in the circumstances of the present case, the late-filed documents should be admitted as evidence. In order to explain the lateness of citations (12) to (14), the appellant's representative indicated at the hearing before the board that these citations could only be obtained after a comprehensive search carried out by him immediately when taking over the case from the previous representative. This appears *prima facie* correct.

As regards document (12), the appellant was convinced that its content was prejudicial to the novelty of the claimed subject-matter in the patent. As regards citations (13) and (14), these include some of clear relevance to both the issues as developed during the first-instance opposition proceedings and the reasons given for the appeal in the statement setting out the grounds of appeal. Coupled with the fact that, in

advance of the oral proceedings before the board, the respondent had more than one year in which to consider and prepare arguments in reply to the late evidence, the board exercises its discretion in favour of the appellant.

3. *Novelty*

3.1 As is apparent from paragraph II above, the only issue which was raised by the appellant in opposition was **lack of novelty** of the artificial tanning compositions according to present claim 1 and dependent claims 2 to 6 (see I above) and also of their use in the manufacture of a medicament for providing artificial tan to human skin, as claimed in claims 8 and 9 (see I above).

3.2 In the course of the opposition proceedings, the appellant relied solely and exclusively on the disclosure of (2/3) as novelty-destroying prior art. During the subsequent opposition appeal proceedings it also cited the state of the art according to document (12) against the novelty of the claimed subject-matter in the patent.

4. *Citation (2); state of the art under Article 54(3) and (4) EPC*

4.1 Citation (2), which was published on **2 November 1994**, corresponds to European patent application No. 94 106 050.1 filed on **19 April 1994** with a German priority of **29 April 1993**. The Contracting States DE, ES, FR, GB and IT designated in respect of this earlier European application as published, i.e. citation (2),

are also designated in respect of the later European patent application No. 95 912 039.5 forming the basis of the patent. This later application was filed on **3 March 1995**, validly claiming priority from an earlier US application on **29 March 1994** (Serial No. 219 053). The content of (2) which is entitled to the claimed priority date (hereinafter referred to as (2/3)) is thus comprised in the state of the art under Article 54(3) and (4) EPC. With the exception of Application Examples ("Anwendungsbeispiele") A to F (see pages 5 to 10) and Comparative Examples ("Vergleichsbeispiele") 1 und 2 (see pages 10 to 11), the content of (2) enjoys the priority (3).

4.2 According to the consistent case law of the boards of appeal, a document that is part of the state of the art under Article 54(2) or 54(3) EPC only constitutes anticipation if that document reveals all the features of the subject-matter claimed - not just the essential ones - **directly** and **unmistakably**. The disclosure also covers technical features which are not expressly mentioned in that document but which, for the person skilled in the art, are **clearly and unambiguously implied** by its content (see e.g. T 59/87 published in OJ EPO, 1991, 561; T 450/89 of 15 October 1991; T 677/91 of 3 November 1991; T 465/92 published in OJ EPO 1996, 32; T 511/92 of 27 May 1993; and in general "Case Law of the Boards of Appeal of the European Patent Office", 4th edition, 2001, I.C.2.)

4.3 A claimed invention lacks novelty unless it includes at least one essential technical feature which distinguishes it from the state of the art. When deciding upon the novelty of a claim, a basic initial

consideration is therefore to construe the claim in order to determine its technical features. The claimed invention in the patent, as defined in the broadest claim (claim 1), relates to:

**"An artificial tanning composition** having improved stability comprising:

- (a) from 0.1% to 20% by weight dihydroxyacetone,
- (b) from 0.025% to 5% by weight of a salt selected from the group consisting of metabisulfite salts, sulfite salts, hydrogen sulfite salts, and mixtures thereof, and
- (c) a topical carrier."

4.4 The broadest claim 1 of both citation (2) and its priority document (3) reads as follows (lettering of features added by the board):

**"Powder mixture** containing:

- (a) a formaldehyde- and/or formic acid-releasing compound which has skin-tanning properties, characterized in that the powder mixture contains
- (b) an agent which forms sulphite ions, and, if appropriate,
- (c) stabilizers."

4.4.1 According to dependent claim 2, the compound which has skin-tanning properties is dihydroxyacetone (DHA).

4.4.2 According to dependent claim 3 in (2) and dependent claims 3 and 4 in (3), the agent which forms sulfite ions is a hydrogen sulfite, preferably an alkali metal hydrogen sulfite or an alkaline earth metal hydrogen

- sulfite, disulfite, preferably an alkali metal disulfite, or dithionite.
- 4.4.3 According to dependent claim 6 in (2) and dependent claim 9 in (3), the **powder mixture** contains 45-99% by weight, preferably 80-90% by weight, of the compound having skin-tanning properties, 0.1-50% by weight, preferably 1-20% by weight, of the agent which forms sulfite ions, and 0.1-5% by weight of the stabilisers.
- 4.4.4 Examples 1 to 4 of (2/3) disclose stable **powder mixtures** comprising, *inter alia*, 89.5 g of DHA and 10 g of sodium sulfite or sodium disulfite; Examples 5 to 12 of (2/3) disclose stable **powder mixtures** comprising, *inter alia*, 98 g of DHA and 10 g of sodium sulfite or sodium disulfite.
- 4.4.5 The cited documents also disclose that the powder mixtures of (2/3) are preferably used in the preparation of cosmetic compositions which are useful for providing an artificial tan to human epidermis ("als Mittel zur Bräunung menschlicher Epidermis") and that such compositions contain a topical carrier and may be present, for example, in the form of lotions, emulsions, cremes, gels or aerosols (see (2), page 3, lines 11 to 15; (3), page 5, lines 1 to 9).
- 4.5 Although artificial tanning compositions comprising DHA in combination with a salt selected from the group consisting of metabisulfite salts, sulfite salts and hydrogen sulfite salts are already known from (2/3), claim 1 of the patent additionally and explicitly stipulates the presence in the claimed composition of



- DHA **in an amount (weight percentage) of 0.1% to 20%** (hereinafter referred to as feature (a)) and
- the sulfite salt **in an amount (weight percentage) of from 0.025% to 5%** (hereinafter referred to as feature (b)).

From a comparison of the claimed subject-matter in the patent (see 4.3 above) and the disclosure in the state of the art according to (2/3) (see 4.4 to 4.4.5 above) it is thus immediately apparent and **also accepted by the appellant** that neither the specific weight percentage (amount) of DHA (feature (a)) nor that of the sulfite salt (feature (b)) contained in the claimed artificial tanning compositions and recited in claim 1 of the patent is **explicitly** disclosed in those parts of citation (2) which are as entitled to the claimed priority date.

- 4.6 It is, however, disputed whether, as alleged by the appellant, the specific weight percentages (amounts) of both DHA (feature (a)) and the sulfite salt (feature (b)), represent technical features which for the skilled person are **implicit** in what is **explicitly disclosed** in the prior art of (2/3).

In this context the appellant essentially argued that in the light of the disclosure in citations (4) to (11), (13) and (14) a skilled person would have been aware of the amount (weight percentage) of DHA normally present in artificial tanning compositions such as those disclosed in (2/3). It further argued that, if the amount (weight percentage) of DHA (feature (a)) was correctly considered implicitly disclosed in (2/3), the amount (weight percentage) of the sulfite salt (feature

(b)) present in artificial tanning compositions disclosed in (2/3) could then be readily calculated from the weight ratio of DHA to sodium sulfite or sodium disulfite specified for the powder mixtures in Examples 1 to 12 of (2/3). The appellant concluded therefrom that the content of (2/3) was prejudicial to the novelty of the claimed subject-matter in the patent. The board concurs with the finding of the first instance in the decision under appeal and cannot agree with the appellant's view.

4.6.1 As for the appellant's assertions concerning the implicit prior description of the claimed artificial tanning composition in the state of the art according to (2/3), it should be noted as a preliminary point that features which are **not expressly** mentioned in a prior-art document, such as in the present case both features (a) and (b), could only be considered as implicitly disclosed if they were **directly** and **unequivocally** derivable from **that particular document**. According to the consistent case law of the boards of appeal, when assessing novelty, the disclosure of a particular prior document must always be considered in isolation; in other words it is only the actual content of a document (as understood by a skilled man) which destroys novelty. It is not permissible to "combine" separate items of prior art together (see e.g. T 153/85, OJ EPO 1988, 1; and in general "Case Law of the Boards of Appeal of the European Patent Office", 4th edition, 2001, I.C.3). This general principle not only applies to explicit features but must apply with all the more justification if a feature is to be considered as implicit in what is explicitly disclosed in a particular single prior art document.

4.6.2 In the appellant's opinion, the mere general reference in (2/3) to cosmetic compositions which are useful for providing an artificial tan to the human epidermis ("als Mittel zur Bräunung menschlicher Epidermis") includes a definition in general terms of the amount (weight percentage) of DHA which, if interpreted in the light of any of the citations (4) to (9), (11), (13) or (14) should be construed as an implicit prior description of feature (a). In this respect, the board shares the opinion of the first instance in the decision under appeal that the interpretation proposed by the appellant results from an unallowable "ex post facto combination" of separate items of prior art.

4.6.3 The appellant argued in its written submissions and at the hearing that the disclosure of citation (11) was particularly relevant for the logical interpretation of the technical facts explicitly stated in the prior art of (2/3). In their introductory portions relating to the background of the claimed invention, both (2) and (3) (see (2), page 2, lines 11 to 15; and also (3), page 1, lines 25 to 27) mention briefly in general terms that

- the artificial tanning effect of compounds containing a ketol group, such as DHA, essentially results from a Maillard-type reaction between the ketol group of these compounds and the amino acids of the skin and that
- it was already known from the state of the art (for example from citation (11)) that this type of reaction may be **enhanced** by the addition of certain adjuvants.

The above-mentioned statements in (2) and (3) only represent a short indication of the background art but certainly cannot be construed as a cross-reference in (2/3) to citation (11) which may necessitate part or all of the disclosure of (11) being considered as part of the disclosure of (2/3). Citation (11) relates to subject-matter different from that disclosed in (2/3) and claimed in the patent, that is to say to compositions which contain, **in addition to DHA**, certain **indole derivatives** as a **second component having skin-tanning properties** in order to enhance the skin-tanning effect of such compositions. Moreover, the tanning compositions of (11) are free of sulfite salts which are present in the powder mixtures of (2/3) in order to prevent liberation of formaldehyde and formic acid from these powder mixtures (see (2), page 2, lines 20 to 29; (3), page 1, line 27 to page 2, line 11).

- 4.6.4 From the foregoing it is clear that disclosure of (2/3), on the one hand, and that of citation (11), on the other, are to be considered as **completely separate items of prior art**. Citation (11) discloses artificial tanning compositions comprising, **in addition** to the skin-tanning indole compound, DHA in amounts (weight percentages) within the broad range of 0.1 to 10%, preferably 1 to 6% (see page 3, lines 2 to 7, claims 3 and 4). The examples of (11) contain 2% DHA (Example 7), (3.5% DHA (Example 8), or 5% DHA (Examples 1 to 6 and 9 to 11).

The appellant's contention that amounts of DHA used in the tanning compositions exemplified in (11) were representative of the state of the art and as such

formed part of the technical teaching implicitly derivable from the disclosure of (2/3) which the skilled reader would automatically infer, is clearly based on an unallowable "ex post facto combination" of separate items of prior art. This is contrary to the established case law of the boards of appeal, as explained in 4.6.1 to 4.6.3 above.

4.6.5 The amount of DHA used in artificial tanning compositions disclosed in the documents cited by the appellant varies broadly within the limits of 0.1% and 10% by weight (see e.g. (11), 4.6.4 above) or even 0.1% and 20% DHA (see e.g. (8), page 5, line 4; claim 1; (9), page 5, line 12 to 14; claim 1). The prior art according to (4) to (9), (11), (13) or (14) thus demonstrates clearly that, depending on the nature and proportions of the different components present in an artificial tanning composition, in some types of such compositions a proportion of 0.1% by weight of DHA may be sufficient to provide a satisfactory artificial colouration or tan to the human skin, whereas in other types 20% by weight may be necessary and in still other types amounts within this broad range, e.g. 2% to 5% or 4% to 6%, or 10% (see e.g. (11), 4.6.3 and 4.6.4 above) are considered to be necessary and suitable.

Even the law regulating the acceptable amounts of DHA in artificial tanning compositions does not appear to be harmonised between different European countries. Thus, for example, Austrian and Swiss law allows for the content of DHA in artificial tanning compositions a range of 2% minimum to 5% maximum (see (5), top of page 14; (14), page 3371). No evidence of a similar law

or regulations in other countries has been provided by the appellant, nor is the board aware of any.

4.6.6 The disclosure of (2/3) is determined by what knowledge and understanding can and may be expected of the average skilled reader in the technical field in question, when reading that disclosure in isolation (T 164/92, OJ EPO 1995, 305, corr. OJ EPO 1995, 387; T 582/93 of 23 June 1994). The skilled person's function in the examination of novelty is limited to an **individual comparison**. He may only compare the filed invention with **one** citation at time. In addition, the skilled person may not automatically combine or link details from a citation. Considerations that go beyond this narrow examination of novelty are to be included in the examination of inventive step pursuant to Article 56 EPC (see e.g. T 181/82, OJ EPO 1984, 401; T 195/84, OJ EPO, 1986, 121; T 572/88 of 27 February 1991).

Having regard to the broad variety of the amounts (weight percentages) of DHA used and required in conventional artificial tanning compositions to achieve the desired self-tanning effect (see 4.6.5 above), the claimed amount of DHA present in the artificial tanning compositions, comprising the specific combination of active agents specified in present claim 1, was certainly not part of the technical teaching implicitly derivable from the disclosure of (2/3) which the average skilled person in the field would or could automatically and inevitably infer.

The skilled person, knowing the state of the art, would require at least two mental steps to arrive at the

specific amount of DHA used in the artificial tanning compositions claimed in the patent. These steps are

- first, a logical interpretation of technical facts explicitly stated in (2/3) and then
- a combination of state of the art of (2/3) with that of the other cited documents.

This is a typical line of reasoning concerning a conclusion on inventive step.

4.6.7 The appellant's conclusions regarding the alleged implicit disclosure of the specific amount of DHA used in the prior art of (3/2) are clearly based on the use of the concept of "implicit disclosure" in a way that considerations relevant to the evaluation of inventive step were transferred to the assessment of novelty. A fair assessment of an invention's patentability calls, however, for a clear distinction between novelty and inventive step.

4.7 The calculations made by the appellant in order to determine **feature (b)**, i.e. the amount (weight percentage) of the sulfite or bisulfite salt allegedly present in the artificial tanning compositions disclosed in (2/3), are based on a series of speculations, assumptions and arbitrary choices and selections among mutually independent options disclosed in the state of the art. In the absence of any explicit or implicit disclosure of feature (a) in (2/3), these calculations are based, for example, on

- the entirely arbitrary and speculative choice or selection of a specific amount (weight percentage) of DHA allegedly present in the artificial tanning

- compositions of (2/3) among the broad variety of mutually independent options for the amount of DHA disclosed in the cited documents;
- the unrealistic assumption that in (2/3) the same or at least similar amounts of DHA as in (11) were used, even if in (2/3) DHA is used as the sole component having skin-tanning properties, in contrast to the prior art of (11), which relates to compositions containing, in **addition to DHA**, indole derivatives as a second component having skin-tanning properties;
  - the mere assumption that in the tanning compositions of (2/3) in the presence of sulfite salts, which prevent liberation of formaldehyde and formic acid from compositions containing DHA, the same or at least similar amounts of DHA would automatically be used as in conventional artificial tanning compositions comprising only DHA, in the absence of sulfite salts;
  - the further assumption that the weight ratio of DHA to the sulfite salts derivable from the powder mixtures disclosed in Examples 1 to 12 in (2/3) was necessarily maintained constant when these powder mixtures were converted into final artificial cosmetic tanning compositions, although the disclosure of (2/3) is entirely silent in this respect and does not contain an example of such a final artificial tanning composition.

4.7.2 The above observations make it clear that **feature (b)** cannot be inferred directly and unequivocally from the disclosure of (2/3).



5. *Citation (12); state of the art under Article 54(2) EPC*

5.1 During appeal proceedings, citation (12) was cited by the appellant under Article 54(2) EPC against the novelty of the claimed subject-matter in the patent. This citation discloses a hair treating composition which is composed of two agents (components), namely

- (A) a **first** agent comprising an aqueous solution containing 1 to 20% by weight of a sulfite or hydrogen sulfite, e.g. 4% sodium sulfite, and having a pH of 5 to 12 (see claims 1 and 2 and especially pages 18 and 19, tables 1 and 2), and
- (B) a **second** agent comprising an aqueous solution containing 1 to 20% by weight of one or more compounds having carbonyl groups, e.g. 10% DHA and 0.1 to 10% by weight of either a bromate or hydrogen peroxide, and having a pH of 3 to 10 (see claims 1 and 3 and especially pages 18 and 19, tables 1 and 2).

5.2 In contrast to the claimed artificial tanning composition in the patent, the hair treating composition disclosed in citation (12) consists of two distinctly different separate agents. The disclosure of (12) makes it unambiguously clear that these two agents are separate compositions which are each applied to the hair one after the other. For example, in claim 4 on page 4, first paragraph, it is stated that the hair treating method is characterised by treating hair "*with a first agent according to claim 1 or 2*" (agent A) "*and thereafter with a second agent according to claim 1 or 3*" (agent B).

- 5.3 The appellant also alleged that by carrying out the hair treating method as exemplified in Example 1 of citation (12) - see pages 16 and 17, items [0041] and [0042] - a composition falling within the scope of claim 1 would be necessarily and inevitably obtained.

In this test method various examples of the hair treating agents (A) and (B) were prepared and used to treat a bundle of hair wound around a glass rod. In all these tests the hair was coated in a first step with the first agent (A) and left to stand at 50°C for 20 or 10 minutes *resp.*, before being coated in the next step with the second agent (B) and left to stand at room temperature for 20 or 10 minutes respectively. The board concurs with the respondent's submissions that (12) does not mention anything from which could be derived, for example, the nature of the components of agent (A) and also their quantitative proportions which are either absorbed by the hair, or react with the hair, or are decomposed during the incubation period of 10 or 20 minutes at 50°C, before agent (B) is applied to the hair bundle. An artificial tanning composition according to present claim 1 cannot therefore be said to be anticipated, let alone clearly and unambiguously anticipated, by carrying out the test method disclosed in (12).

6. In conclusion, the claimed subject-matter in the patent cannot be inferred directly and unequivocally from the state of the art of either (2/3) or (12) and is therefore novel within the meaning of Article 54(1) EPC. The conclusion above extends not only to the subject-matter of claim 1 but also to that of claims 2 to 6 and 8 and 9. Claims 2 to 6 are dependent on

claim 1 (see I above) and claims 8 and 9 relate to specific uses of the new composition according to claim 1 or claim 6 (see I above).

7. Since the main request is allowable, there is no need to examine the auxiliary requests.

## **Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

A. Townend

U. Oswald