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**Datasheet for the decision
of 19 July 2016**

Case Number: T 0645/13 - 3.3.07

Application Number: 05028577.4

Publication Number: 1676604

IPC: A61Q5/02, A61Q5/00, A61Q5/12,
A61K8/898, A61K8/23, A61K8/34,
A61K8/41, A61K8/46

Language of the proceedings: EN

Title of invention:

Method for enhancing chroma of hair

Patent Proprietor:

KAO CORPORATION

Opponent:

Henkel AG & Co. KGaA

Relevant legal provisions:

EPC R. 76(2) (c)

EPC Art. 56

RPBA Art. 12(4), 13(1), 13(3)

Keyword:

Admissibility of opposition - opposition substantiated (yes)

Evidence submitted with the statement of grounds of appeal -
admitted (yes)

Late-filed documents - admitted (no)

Inventive step - (yes)



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Case Number: T 0645/13 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 19 July 2016

Appellant: Henkel AG & Co. KGaA
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 14 January 2013
rejecting the opposition filed against European
patent No. 1676604 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman J. Riolo
Members: A. Usuelli
D. T. Keeling

Summary of Facts and Submissions

- I. European patent No. 1 676 604, based on European patent application No. 0502877.4, was granted on the basis of 4 claims.

Claims 1 of the patent read as follows:

"1. A method for enhancing a chroma of hair, comprising the steps of:

shampooing the hair with a water based shampoo containing (A) 5 to 20% by weight of an anionic surfactant, (B) 0.1 to 5% by weight of a water-insoluble modified silicone containing at least one of an amino group and a quaternary ammonium group in a molecule thereof, and (C) a water-soluble salt in an amount capable of allowing the component (B) to be present in a solubilized state;
applying a water-based conditioner containing a higher alcohol having 12 to 28 carbon atoms and a cationic surfactant at a molar ratio of 1:1 to 10:1 to the shampooed hair; and rinsing the hair."

- II. The patent was opposed on the grounds that its subject-matter lacked novelty and inventive step.

The following documents were among those cited during the opposition proceedings:

D2: Silicones as a Color-lock Aid in Rinse-Off Hair Care Products, Dow Corning Corporation

D3: WO 03/066007

D4: US 6,143,286

- III. By decision posted on 14 January 2013 the opposition division rejected the opposition.

According to the decision under appeal:

- (a) The opposition was admissible since the ground of lack of inventive step had been properly substantiated as required by Rule 76(2)(c) EPC.
- (b) It was not possible to establish when document D2 was made available to the public. Hence, this document was not comprised in the state of the art.
- (c) Documents D3 and D4 were considered to represent the closest prior art. The method claimed in the opposed patent differed from the methods disclosed in these documents on account of the step of applying a water-based conditioner to the shampooed hair. In the light of the experimental results disclosed in the patent, the objective technical problem was to be seen in the provision of a method for enhancing the chroma of hair. None of the prior art documents cited by the opponent addressed the problem of enhancing the chroma of hair. The subject-matter of the patent was therefore inventive.

IV. The opponent (hereinafter: the appellant) lodged an appeal against that decision. With the statement setting out the grounds of appeal it submitted the following pieces of evidence:

D12: Evidence concerning the publication of D2

V. With the reply to the appeal filed on 2 October 2013, the patent proprietor (hereinafter: the respondent) filed an auxiliary request and submitted the following document:

VI. D11: Experimental Report

VII. In a communication pursuant to Article 15(1) RPBA issued on 20 June 2016 the Board made *inter alia* the following observations:

(a) The decision of the opposition division as to the admissibility of the opposition appeared correct.

(b) There was no convincing evidence that document D2 was made available before the priority date of the patent.

(c) The assessment of inventive step should be based on the general approach followed in the appealed decision, starting from D3 or D4 as the closest prior art.

VIII. By letter of 6 July 2016 the appellant submitted the following documents:

D2a: Journal of Cosmetic Science, 55, 1 (Jan./Feb.), 2004, 130-131

D13: Römpp Chemie Lexikon, 5, 1995, 3730-3731

D14: Handbook of Industrial Surfactants, 2nd Edition, 1, 1997, 468

D15: Brochure from the firm Huntsman, 2011

IX. Oral proceedings were held on 19 June 2016. The discussion was focused on the issues of admittance of the evidence filed in appeal and on inventive step. The appellant declared that it did not maintain the objection based on lack of novelty.

X. The appellant's arguments, as far as they are relevant to the present decision, can be summarised as follows:

- (a) Document D12 was a proof that document D2 was published on 14 May 2004, i.e. before the priority date of the patent in suit.
- (b) The experiments included in the statement setting out the grounds of appeal were filed in reaction to the conclusion of the opposition division that the method defined in the patent in suit effectively resulted in an enhancement of the hair's chroma. These experiments were therefore to be admitted into the appeal proceedings.

Document D2a was nearly identical to document D2. It was filed to show that at least part of the content of D2 was available to the public before the priority date of the patent. The appellant did not file this document before because it was convinced that it had already shown that D2 was published before the priority date. D13 was filed to clarify the meaning of the expression "quaternary ammonium group" used in claim 1. D14 and D15 provided information concerning the composition of example 2 of D3.

- (c) Document D3 was the closest prior art for the assessment of inventive step. It disclosed hair care compositions including shampoos comprising siloxane derivatives. These compositions had the effect of reducing the colour fading and the yellowing. In paragraph [0052] it was also reported that the compositions improved the colour intensity. The siloxanes derivatives were in a solubilised state since the shampoos were optically

clear. The shampoo described in the example 2 contained NaCl, i.e. a water-soluble salt. The method defined in claim 1 of the patent in suit was novel over the disclosure of D3 on account of the use of a water-based conditioner. Document D4 related to the problem of protecting the hair colour. It disclosed in example 1 a hair conditioner containing cetyl alcohol and a cationic surfactant. A similar conditioner was disclosed in page 234 of D1. The skilled person would have considered using the conditioning agents of D4 or D1 after shampooing the hair with the products of D3. The method of the patent in suit was therefore obvious in view of the combination of D3 with D4 or D1.

XI. The respondent's arguments, as far as they are relevant to the present decision, can be summarised as follows:

- (a) The opposition division should have rejected the opposition as inadmissible in that it did not comply with the requirement of Rule 76(2)(c) EPC. The opponent had the burden to show that the patent was invalid by indicating the facts, evidence and arguments that supported each ground of opposition.
- (b) Document D2 could not be considered to be part of the prior art since it had not been established when it was made available to the public. The indication of the copyright date 2004 did not imply that D2 was published at that date. Also D12 was not convincing evidence that D2 was made available before the priority date of the patent.
- (c) The experimental report included in the statement setting out the grounds of appeal could have been

filed during the first instance proceedings. The appellant had provided no reason why this experimental evidence was not submitted only during the appeal proceedings. In any case, the experiments were not *prima facie* relevant because they did not represent a faithful reworking of the claimed invention.

There were no cross-references between documents D2a and D2. Thus, D2a was not *prima facie* relevant when determining the publication date of D2. Documents D13 to D15 were also not *prima facie* relevant to the appellant's case. Thus, documents D2a and D13 to D15 were not to be admitted into the appeal proceedings.

- (d) Document D3 did not relate to the problem of enhancing the colour intensity of hair as the patent in suit. This effect was discussed only in the examples describing the use of dyeing compositions. The reference in D3 to the problem of reducing yellowing was not relevant since it had nothing to do with the enhancement of the chroma of hair. Furthermore, there was no evidence in D3 that the modified silicone was solubilised by the presence of a water-soluble salt. The shampoos disclosed in D3 were not the same as the shampoo referred to in claim 1 of the patent. Starting from document D3 the technical problem was to be seen in the provision of a method for enhancing a chroma of hair. Document D4 disclosed in example 1 the use of a conditioner. However, also in this case the product was not used to improve the colour intensity of hair. The skilled person facing the problem of enhancing a chroma of hair would have

not combined D3 and D4. The subject-matter of the patent was therefore inventive.

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

- XIII. The respondent requested that the opposition be declared inadmissible or that the appeal be dismissed or that the patent be maintained on the basis of the claims of the Auxiliary Request filed by letter of 2 October 2013. The respondent further requested the Board not to admit into the proceedings documents D2a, documents D13 to D15, or the experimental evidence submitted by the appellant with the statement setting out the grounds of appeal.

Reasons for the Decision

- 1. Admissibility of the opposition
 - 1.1 The Board confirms the opposition division's decision that the opposition is admissible.
 - 1.2 In paragraph VI of the notice of opposition, the opponent (now appellant) presented three alternative approaches for the assessment of inventive step, starting from documents D3, D4 or D5 as closest prior art. At least in the first two cases, the appellant identified the distinguishing features of the subject-matter of the patent over the closest prior art and indicated which documents disclosed these features.
 - 1.3 In the Board's view, taking into account that the case does not involve any particular complexity and also considering that the patent and the cited documents are not excessively long, the evidence and arguments

presented in the notice of opposition were sufficient to allow the patent proprietor and the opposition division to understand the nature of the objection submitted by the opponent. Hence, the notice of opposition met the requirements of Rule 76(2)c) EPC.

2. Publication date of document D2

- 2.1 The Board agrees with the respondent that the indication of the copyright date (2004) does not prove that the document was made available before the priority date of the patent in suit, i.e. 28 December 2004. In general terms, the indication in a document of a copyright date does not imply that the document was made available to the public on that date. This conclusion, already announced by the Board in its communication of 20 June 2016, was never disputed by the appellant.
- 2.2 In an effort to demonstrate that D2 was made available to the public before the priority date of the patent, the appellant submitted with the statement setting out the grounds of appeal document D12. D12 is an e-mail sent to the appellant by an employee of Dow Corning, i.e. the company of the authors of D2. It is affirmed that the date of publication of D2 "seems to be May 14, 2004, but we can't be 100% certain. We believe (but we are not certain) that the only place the article was printed was in the white paper format as opposed to being published in the trade press or elsewhere".
- 2.3 The words used in this statement clearly reveal that even within the company releasing document D2 there is considerable uncertainty as to the publication date of the document. The indication that "the only place the article was printed was in the white paper format as

opposed to being published in the trade press or elsewhere", without any further clarification from the side of the appellant, also casts some doubt on whether document D2 was made available to the public.

Thus, in the Board's view D12 is not convincing evidence that D2 was published before the priority date of the patent.

2.4 In the light of the above, the Board concludes that the decision of the opposition division to consider that D2 did not belong to the state of the art was correct.

3. Admittance of evidence filed during the appeal proceedings

3.1 The appellant included in the statement setting out the grounds of appeal an experimental report relating, according to its submissions, to tests performed using compositions disclosed in the patent in suit.

According to Article 12(4) RPBA, the Board has the power to hold inadmissible this new evidence if it considers that it could have been presented during the first instance proceedings.

In the course of the first-instance proceedings the appellant developed a line of argumentation against inventive step on the basis of documents disclosing compositions improving the fade resistance of color-treated hair. In its decision, the opposition division emphasises that the experimental data disclosed in the patent show that the method of the invention provides a different effect namely the enhancement of the chroma of hair (point 3.8 of the decision).

The experimental report of the appellant is meant to challenge this conclusion of the opposition division by showing that the method of the patent in suit is ineffective in enhancing the chroma of hair.

The submission of this experimental report is therefore to be regarded as a legitimate attempt from the side of the appellant to react to the conclusions of the opposition division. In the Board's view, since the appellant during the first instance proceedings tried to attack inventive step by a different strategy, it had no compelling reasons for filing these experiments already at that stage.

Thus, the Board, in the exercise of its discretionary power according to Article 12(4) RPBA admits the experiments of the appellant into the appeal proceedings.

- 3.2 The respondent has submitted its experimental report D11 with the reply to the appeal of the appellant. The purpose of this report is to call into question the relevance of the appellant's experiments.

Document D11 is therefore filed as a direct response to the experimental evidence filed by the appellant. Hence, the Board finds it appropriate to admit this document also.

- 3.3 D2a was filed by the appellant on 6 July 2016, i.e. less than two weeks before the date of oral proceedings. The appellant underlined that various passages of D2a were included also in D2. In its view, since D2a was published in 2004, it could be regarded as evidence that the concepts disclosed in D2 were already

available to the public before the priority date of the patent.

- 3.3.1 Indeed documents D2 and D2a relate to the same subject, namely the use of silicone as color-lock aid in hair compositions. The Board also agrees with the appellant on the remarks that a few passages of the two documents are very similar.

It is however undisputed that D2 and D2a are two distinct publications. In this respect the Board notes that D2 is an article written by three authors while D2a is the report of a presentation made on behalf of one of the authors of D2. There are also evident differences in the content of the two documents. D2a discloses for instance on page 131 three figures relating to tests carried out using silicone-containing conditioners. These figures are not included in D2.

Furthermore, as remarked by the respondent, there is no mention of document D2a in D2, nor is there a mention of document D2 in D2a.

Thus, D2a cannot be used to derive information somehow concerning the publication date of D2. Hence, this document does not appear to serve the purpose for which it was apparently filed.

- 3.3.2 As to whether document D2a could be admitted independently of its relationship with D2, the Board notes that this document does not relate to the problem of enhancing the chroma of hair as the patent in suit. It rather relates, as various other documents on file, to the use of silicone products for preserving hair color. Hence, document D2a is not regarded as a *prima facie* relevant document.

In accordance with the established case law of the boards of appeal, the relevance of late filed documents is a crucial criterion for deciding on their admittance (Case Law of the Boards of Appeal of the EPO, 8th edition 2016, IV.C.1.3.7).

Thus, document D2a is not admitted into the appeal proceedings (Article 13(1) and (3) RPBA).

- 3.4 Documents D13 to D15 were also filed on 6 July 2016. The appellant did not provide any reason for the late filing of these requests.

D13 is an extract from a dictionary providing a definition of what constitutes a quaternary ammonium compound. The Board notes that this was not a matter of dispute between the parties.

The purpose of filing documents D14 and D15 was apparently to demonstrate that the composition of example 2 of document D3 contains an anionic surfactant in an amount included in the range defined in claim 1 of the patent. However, this conclusion was never disputed by the respondent who had rather observed in its reply to the appeal that document D3 failed to disclose a method involving a conditioning step.

Accordingly, on a *prima facie* consideration D13 to D15 are not relevant and they are unlikely to affect the outcome of this appeal.

For these reasons, the Board, exercising its discretion under Article 13(1) and (3) RPBA, decides not to admit documents D13 to D15 into the appeal proceedings.

4. Main request (patent as granted)

4.1 Inventive step

As indicated in paragraph [0001] of the description, the invention underlying the patent in suit relates to the problem of providing a method for enhancing the chroma of hair.

Closest prior art

4.1.1 Both parties presented their arguments on inventive step starting from document D3 as the closest prior art and the Board sees no reason to differ.

4.1.2 Document D3 relates to hair care compositions comprising a polysiloxane having both amino and polyol groups (see paragraph [0003]). These substances reduce colour fading and provide wash resistance of the colour [paragraph 0019]. Furthermore, according to paragraph [0030] of the patent the shampoo compositions provide less yellowing.

The Board agrees with the respondent that these effects are not equivalent to the enhancement of the chroma. This is clear for the reduction of colour fading and wash resistance which are effects concerning the prevention or the reduction of the process of discoloration. As to the effect on the yellowness, the respondent explained during the oral proceedings that this parameter together with the redness determines the chromaticity. However, a simple change of the yellowness does not necessarily result in an increase of the chromaticity.

The Board accepts this explanation of the respondent which was not contested by the appellant.

Document D3 refers in paragraph [0052] to "an improvement in colour intensity". This passage, however, clearly refers to the composition disclosed in the preceding paragraph which contains a dyeing agent. Indeed, example 4, the sole example in which the effects of the compositions on colour intensity are tested, relates to the use of a semi-permanent dyeing composition.

- 4.1.3 Document D3 discloses in example 2 a shampoo containing an anionic surfactant and a polysiloxane derivative containing amino-group. The example furthermore discloses the use of this shampoo on hair swatches.

It was not disputed by the parties, that the method of claim 1 differs from the disclosure of example 2 of D3 at least on account of the step of applying a water-based conditioner as defined in claim 1.

Furthermore, the Board agrees with the respondent that there is no information in D3 concerning the solubility of the amino-containing silicone in water and in water-based shampoo. It is therefore unclear whether this substance fulfils the requirement recited in claim 1 of the patent in suit of being water-insoluble but being present in the shampoo in a solubilized state by effect of the presence of a salt.

Thus, in the Board's view this requirement must be regarded as a further distinguishing feature of claim 1 over the disclosure of D3.

Technical problem

4.1.4 The effectiveness of the method of claim 1 in enhancing the chroma of hair is tested in an experiment disclosed in paragraph [0062] of the patent. The results reported in Tables 4 and 5 show the change in chroma already after a single treatment according to the method of claim 1.

Tables 4 and 5 also disclose data relating to the chroma of hair treated according to comparative methods. Particularly relevant are the data relating to comparative examples 2 and 5 which relate to methods differing from the method of claim 1 respectively in the use of a shampoo that does not contain a salt capable of solubilizing the modified silicone and in the absence of a conditioning step. The results concerning comparative example 2 show an enhancement of chroma which is lower compared to the enhancement obtained when the hair is treated with a method according to claim 1. The data concerning comparative example 5 show that no chroma enhancement is observed in the absence of the conditioning step.

Thus, the data concerning comparative examples 2 and 5 make it possible to appreciate the importance for obtaining an enhancement of chroma of both the presence of a solubilizing salt in the shampoo and the presence of a conditioning step, i.e. the features characterising the method of claim 1 over the method of D3.

4.1.5 The appellant filed with the statement setting out the grounds of appeal its own experiments in order to challenge the conclusion of the opposition division

that the method of the patent in suit effectively resulted in an enhancement of the chroma of hair.

In the description of the experiments it is explained that the compositions tested are those used in the methods of examples 1, 3 and comparative example 1 of the patent. The results of the tests indicate, in the appellant's opinion, that none of the methods tested results in a statistically significant change of the chroma of hair.

- 4.1.6 In relation to the appellant's experiments the Board agrees with the respondent's observation that the compositions tested are not identical to the compositions described in the patent. For instance, all the shampoos contain benzoic acid whereas none of the shampoos used in the tests disclosed in the patent contains it. Furthermore, a different modified silicone is present in the shampoos tested by the appellant than the one used in examples 1, 3 and comparative example 1 of the patent.

Thus, the experiments of the appellant cannot be regarded as a reproduction of the experiment disclosed in paragraph [0062] of the patent.

Furthermore, no indication is provided in the experiments of the appellant as to whether the modified silicone is present in the shampoo in a solubilized state. In this respect, the respondent has prepared one of the shampoos containing a modified silicone tested by the appellant (experimental report D11). In its conclusion the appellant affirms that particles of modified silicone were observed as white turbidity in the shampoo. This clearly indicates that the modified silicone is not present in a solubilised state.

The appellant did not contest the results disclosed in D11. Having regard to this and to the fact no information is given in the appellant's report in relation to this issue, the Board accepts the respondent's conclusion that the shampoos tested by the appellant are not the same as the shampoos defined in claim 1 of the patent because the modified silicone is not present in a solubilised state.

It follows that no conclusion can be based on the appellant's experiments as to the effectiveness of the method of claim 1 in enhancing the chroma of hair.

- 4.1.7 In the light of the above considerations, the Board agrees with the formulation of the technical problem given in the decision under appeal, namely the provision of a method for enhancing the chroma of hair.

Obviousness

- 4.1.8 Document D4, the main document considered by the appellant in combination with D3, discloses *inter alia* hair conditioning compositions containing a fatty alcohol and a cationic conditioning agent. The two conditioning compositions disclosed in example 1 contain a proportion of fatty alcohol and cationic surfactant within the range defined in claim 1.

There is however no indication in D3 that these conditioning compositions may enhance the chroma of hair or may be used in a method for enhancing the chroma of hair. Examples 6 to 9 disclose the results of experiments in which the conditioning compositions of example 1 are tested on dyed hair. The parameter which is evaluated is the resistance to change in hair colour

intensity after shampooing. Hence, the conditioning compositions of D4 are used to prevent or reducing the colour degradation.

Thus, like document D3, document D4 does not relate to a method for enhancing the chroma of hair. Hence, the skilled person confronted with the problem defined in point 4.1.7 above, would not find in any of these documents, even when considered in combination, any suggestion leading to the subject-matter of the patent.

- 4.1.9 The same conclusions apply to when the teaching of D1 is considered. In this case too, there is no indication to use the conditioning formulation disclosed on page 234 (Formulation 1) in a method for enhancing the chroma of hair.
- 4.1.10 In addition, the Board notes that none of the available prior art documents suggests using a shampoo that contains a modified silicone which is water-insoluble but is present in the shampoo in a solubilized state by effect of the presence of a salt.
- 4.1.11 It follows from the above that the subject-matter of the patent meets the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar:

The Chairman:



S. Fabiani

J. Riolo

Decision electronically authenticated