

**Internal distribution code:**

- (A) [ ] Publication in OJ  
(B) [ ] To Chairmen and Members  
(C) [X] To Chairmen  
(D) [ ] No distribution

**Datasheet for the decision  
of 5 October 2010**

**Case Number:** T 0292/08 - 3.3.10

**Application Number:** 98960833.6

**Publication Number:** 1047375

**IPC:** A61K 7/13

**Language of the proceedings:** EN

**Title of invention:**

Two-part hair dye compositions containing polyether  
polyurethanes and conditioning agents

**Patentee:**

P&G-Clairol, Inc.

**Opponent:**

L'OREAL

**Headword:**

Two-part hair dye composition/P&G-CLAIROL

**Relevant legal provisions:**

EPC Art. 56

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

-

**Keyword:**

"Inventive step (yes) - improvement - not obvious"

**Decisions cited:**

T 0800/91, T 0068/95

**Catchword:**

-



Case Number: T 0292/08 - 3.3.10

**DECISION**  
of the Technical Board of Appeal 3.3.10  
of 5 October 2010

**Appellant:**  
(Opponent) L'OREAL  
14, Rue Royale  
F-75008 Paris (FR)

**Representative:**  
Bulle, Françoise  
Casalonga & Partners  
Bayerstraße 71/73  
D-80335 München (DE)

**Respondent:**  
(Patent Proprietor) P&G-Claireol, Inc.  
1 Blachley Road  
Stamford, CT 06922 (US)

**Representative:**  
Adams, Harvey Vaughan John  
Mathys & Squire LLP  
120 Holborn  
London EC1N 2SQ (GB)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
22 November 2007 concerning maintenance of  
European patent No. 1047375 in amended form.

**Composition of the Board:**

**Chairman:** R. Freimuth  
**Members:** J.-C. Schmid  
F. Blumer

## Summary of Facts and Submissions

- I. The Appellant (Opponent) lodged an appeal on 31 January 2008 against the interlocutory decision of the Opposition Division, posted on 22 November 2007, which found that the European patent No. 1047375 in the form as amended during opposition proceedings according to the then pending auxiliary request 2 filed on 10 October 2007 met the requirements of the EPC.
- II. Notice of opposition had been filed by the Appellant requesting revocation of the patent in suit in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC) and of insufficiency of disclosure (Article 100(b) EPC). *Inter alia* the following documents were submitted in the opposition/appeal proceedings:
- (1) EP-A-0 875 237,
  - (2) WO-A-98/03150 and
  - (26) "Aculyn® 46 Cosmetic Grade Rheology Modifier and Stabilizer", Rohm and Haas, Philadelphia, USA, August 1997.
- III. In the decision under appeal, the Opposition Division held that the requirement of sufficiency of disclosure was met. With respect to the required amounts of polyether polyurethane polymer for enhancing the hair conditioning effect of the cationic conditioning agent in the claimed composition, the Opposition Division observed that these amounts were indicated in the patent-in-suit as being typically between 0.15% and 1.0% by weight, preferably between 0.2 and 0.5% by weight and stated that the particular quantities of the

polyether polyurethane polymer necessary to achieve the claimed enhancement could be easily found by routine tests, adding increasing quantities of the polymer for a fixed amount of cationic conditioner, until the improved conditioning effect arose. With regard to the data filed by the opponent on 10 August 2007 showing that no conditioning enhancement was obtained by a composition containing all the components mentioned in claim 1, the Opposition Division indicated that, since the said composition contained 4% by weight of the polyether polyurethane polymer, it contained too much polymer thus going against the general teaching of the patent-in-suit. The Opposition Division stated that the subject-matter of claim 1 was novel and held it inventive since there was no suggestion that Aculyn® 46 was compatible with cationic conditioning agents in oxidative hair dyes and that their association improved the conditioning effect.

IV. At the oral proceedings before the Board, held on 5 October 2010, the Respondent (Proprietor of the patent) defended the maintenance of the patent in suit on the basis of a new request filed during these oral proceedings, this sole request superseding any previous requests. Independent claims 1 of this request read as follows:

"1. A two part hair dye system for the oxidative dyeing of hair, said system comprising a first dye component composition comprising one or more primary dye intermediates and one or more coupling agents; and a second developer component composition comprising an oxidizing effective amount of an oxidizing agent, wherein the first and second component compositions,

when mixed, provide a final composition having a pH of between 8.0 and 10.5 and containing a nonionic polyether polyurethane polymer and a cationic conditioning agent; the polyether polyurethane polymer being present in the final composition in an amount sufficient to impart to said composition rheological properties required for thickened oxidative hair dyes and to enhance the hair conditioning effect of the cationic conditioning agent, wherein the final composition comprises between 0.1 and 15% by weight of an alkalizing agent selected from ammonia, aminomethylpropanol, methylethanolamine and sodium carbonate."

- V. During the oral proceedings before the Board, the Appellant no longer maintained its objections of insufficiency of disclosure and lack of novelty, but maintained that of lack of inventive step. The closest prior art could be that summarised in paragraph [0007] of the patent-in-suit. The technical problem underlying the patent-in-suit could be at best that of the provision of further hair dye compositions, since no improvement of the conditioning was demonstrated. The comparative test of example 6 of the patent-in-suit comparing the conditioning effect of compositions 12+A and 13+B was not fair because it was carried out with compositions having different contents of polymer, i.e. 1 % of polyether polyurethane (Aculyn 46) in component composition 12 versus 8,2% by weight of polyacrylate (Aculyn 33 and Aculyn 22) in component composition B. The Respondent's argument for carrying out the comparison with different contents of polymers in order to maintain similar rheology was not convincing since no value of viscosity was indicated in the comparison.

Furthermore the hair conditioning effect depended on the nature of the hair. Since the comparison used different hair tresses, as reflected by the combing value before treatment, the comparison of the combability values of the treated hair was meaningless and could not demonstrate a technical effect. The Appellant's comparative data filed on 10 August 2007 and 3 April 2009 showed furthermore that the presence of polyether polyurethane polymer in oxidative dye hair compositions did not improve the conditioning of the hair. Furthermore, the skilled person faced with the problem of improving hair conditioning would find in document (26) the solution of using Aculyn 46 as thickener. As disclosed in the patent-in-suit, it was the lack of compatibility between the polyacrylic acid and the cationic conditioner which resulted in the loss of conditioning effect of the cationic surfactant. The skilled man would thus have contemplated the replacement of the polyacrylic acid by Aculyn 46, since this thickener was taught in document (26) as being compatible with cationic surfactants, and as being particularly recommended for formulations such as oxidative hair dye composition.

- VI. As regards inventive step the Respondent argued that the prior art acknowledged in paragraph [0007] of the patent-in-suit describing the partial incompatibility between cationic conditioning agents, in particular cationic quaternary amines or polymers, and an anionic polyacrylic acid polymer used as thickener in hair dye compositions of the prior art was the closest prior art. The technical problem underlying the invention was the provision of a hair dye composition having improved conditioning properties. In view of the examples of the

specification of the patent in suit it was clear that this problem was solved by replacing the polyacrylic acid polymer present in the oxidative hair dye composition by a polyether polyurethane polymer. There were more polymer in the composition reflecting the prior art for rheological reasons, because when applied to the hair the composition should not run or drip. The improvement of the conditioning was expressed in term of percentage of improving, thus erasing possible differences of the starting material. Document (26) did not clearly suggest that Aculyn 46 was compatible with cationic conditioning agents in oxydative hair dyes. Furthermore it was not foreseeable from document (26) that the conditioning effect of an oxidative hair dye composition could be improved by replacing a polyacrylic acid polymer by a polyether polyurethane polymer, since this document did not address the conditioning of hairs.

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

The Respondent requested that the decision under appeal be set aside and that the patent be maintained on the basis of the sole request filed during the oral proceedings before the Board.

VIII. At the end of the oral proceedings the decision of the Board was announced.

### **Reasons for the Decision**

1. The appeal is admissible.

2. *Amendments*

The amendments to claim 1 find their basis on page 11, first paragraph of the application as filed where the composition is disclosed to further comprise an alkalizing agent selected from ammonia, aminomethylpropanol, methylethanolamine and sodium carbonate at a concentration of between 0.1 and 15% combined with page 5, line 21 to 23 disclosing that the amounts are indicated in the unit "% by weight (w/w), based on the total weight of the composition", and on page 11, second paragraph indicating a pH range for the composition of between 8.0 and 10.5. These amendments restrict the protection conferred by the granted patent. Furthermore, due to the restriction, the disclaimers present in the claims maintained by the Opposition Division became superfluous and have been deleted. Therefore, there are no objections to the amendments made in present claim 1, which finding was not contested by the Appellant. Dependant claims 19 and 20 and independent claim 30 have been deleted, the remaining claims have been renumbered accordingly.

The requirements of Article 123(2) and (3) EPC are thus satisfied.

3. *Insufficiency of disclosure*

Although raised as a ground for opposition, the Respondent did not maintain this objection of insufficiency, the Opposition Division having rejected this ground. The Board sees no reason to depart from



these findings. Thus, it is not necessary to give reasons in detail for the conclusion that the patent-in-suit is sufficiently disclosed.

4. *Novelty*

In view of the amended claim 1, the Appellant no longer maintained its objection of lack of novelty with respect to documents (1) and (2). Nor has the Board any reason to take a different view. In particular, the compositions disclosed in table 3 of document (1) do not comprise an alkalising agent selected from ammonia, aminomethylpropanol, methylethanolamine and sodium carbonate and document (2) does not disclose dyeing compositions having the simultaneous presence of a coupler and an alkalising agent as required by claim 1.

5. *Inventive step*

In accordance with the "problem-solution approach" applied by the Boards of Appeal to assess inventive step on an objective basis, it is in particular necessary 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.

- 5.1 The Board considers, in agreement with the Parties and the Opposition Division, that the prior art acknowledged in paragraph [0007] of the patent-in-suit represents the closest state of the art, and, hence, the starting point in the assessment of inventive step. This state of the art is cited in the patent-in-suit as

the starting point of the invention and the technical problem was formulated in the patent-in-suit to avoid inconveniences associated with the hair dyeing compositions of this state of the art, namely the partial incompatibility between a cationic conditioning agent and a polyacrylic acid polymer. Where the patent in suit indicates a particular piece of prior art as the starting point for determining the problem underlying the patent in suit, in the present case the documents indicated in paragraph [0007] of the patent specification, then the Board should adopt this as the starting point for the purpose of a problem-solution analysis unless it turns out that there is closer state of the art of greater technical relevance (see e.g. decisions T 800/91, point 6 of the reasons; T 68/95, point 5.1 of the reasons, neither published in OJ EPO).

- 5.2 Having regard to this state of the art, the Respondent submitted that the technical problem underlying the patent in suit was to provide an oxidative hair dye composition leading to an improved conditioning effect on hair which was reflected in terms of combability.
- 5.3 As solution to this problem the patent in suit proposes the composition according to claim 1, which is characterised by the fact that it comprises a polyether polyurethane polymer.
- 5.4 In order to demonstrate that the technical problem as defined above has effectively been solved by the claimed compositions the Respondent referred to example 16 of the patent specification dealing with the effects on the combability of hair treated by oxidative dye compositions and relied on the results of table 1

observed with the claimed composition 12+A and compared them to the results achieved with the comparative composition 13+B.

- 5.4.1 Composition 12+A is a hair dye composition according to the patent-in-suit obtained by mixing dye component composition 12 comprising 4% by weight of behentrimonium chloride and 8% by weight of polyquaternium 22 Hydroxyethylcetyl-dimonium chloride (cationic conditioning agents) and 1 % by weight of Aculyn 46 (a polyether polyurethane polymer) with equal parts of developer component composition A.

Composition 13+B is a hair dye composition reflecting the prior art obtained by mixing of dye component composition 13 differing from the component composition 12 only by the absence of Aculyn 46, with equal parts of developer component composition B differing from composition A only by the presence of 1,2% by weight of Aculyn 22 and 7% by weight of Aculyn 33 (acrylic polymers).

The oxidative hair dye compositions were used to treat tresses of brown hair. With respect to the initial combability of the tresses, measured using an Instron device, composition 12+A according to the invention leads to an improvement of 75% (initial combing of 1540 compared with the combing after treatment with the composition of 380) while the treatment with the prior art composition 13+B improves the combability by only 63% (1420 compared to 520).

This comparison shows therefore that the hair conditioning obtained with an oxidative dye hair

composition is better when the composition comprises, in addition to the cationic conditioning agent, a polyether polyurethane polymer rather than a polyacrylic acid polymer. Hence, it is credible that the claimed compositions which are characterized by the presence of a polyether polyurethane polymer show an improved conditioning effect when compared with the prior art compositions containing a polyacrylic acid polymer. The Board is thus satisfied that the technical problem as defined above is effectively solved by the claimed compositions.

5.4.2 The Appellant challenged the success of the claimed solution arguing that the comparison was not fair since the composition reflecting the prior art and used for comparison contained a larger amount of polymer. It is a matter of fact that the claimed composition contains less polymer than the comparative composition according to the state of the art; however this findings rather supports the effect of improved conditioning shown by this comparison, since the effect is achieved in the example according to the invention with a lower amount of polymer than in the comparative example so that it foreshadows an even larger improvement if more polymer would be present in the example according to the invention. For these reasons, and in the absence of any evidence or fact to the contrary, it appears conceivable that the hair conditioning improvement achieved by the claimed compositions compared to the composition of the closest prior art is due to the replacement of the polyacrylic polymer by a polyether polyurethane polymer.

5.4.3 The Appellant also argued that the results shown were meaningless since the test was not carried out on the same tresses, so that the results were not comparable.

The fact that the use of different hair tresses can provide different results with respect to the absolute values of the combability of the treated hair does not make the results of the comparison less credible, since the comparison shows an increase of the relative improvement of combability, i.e. in the form of percentages, which already takes into account that the tests are not performed on the same tress, namely that the initial absolute value of combability of the untreated tresses differs. Hence, this argument missing up absolute values of combability and relative values should also be rejected.

5.4.4 The Respondent further referred to its own comparative tests filed on 10 August 2007 and 3 April 2009 in order to show that the problem was not solved. However, the comparative compositions used in these comparative tests do not reflect the closest prior art, since they do not contain any polyacrylic acid polymer. Accordingly these comparative tests are not suitable to show that no improvement of conditioning occurs when the polyacrylic acid polymer is replaced by a polyether polyurethane polymer and hence these submissions can not throw doubt on the success of the claimed solution to the problem underlying the patent-in-suit (see point 5.4.1 above).

5.4.5 Hence, the Board holds that the technical problem underlying the patent-in-suit has been successfully solved by the proposed solution, i.e. the compositions

according to claim 1 characterized by the presence of a polyether polyurethane polymer.

5.5 Finally, it remains to be decided whether or not the proposed solution to the problem underlying the patent in suit is obvious in the light of the state of the art.

5.5.1 During the oral proceedings before the Board, the Appellant exclusively addressed document (26) in order to support its objection of obviousness. Document (26) is a technical leaflet advertising Aculyn® 46. This document teaches *inter alia* that Aculyn® 46 being compatible with cationic surfactants and peroxides is particularly recommended for oxidative hair dye compositions.

However this document does not address the problem underlying the patent in suit, i.e. improving the conditioning of hair (cf. point 5.2 supra). For this simple reason that document cannot give any hint on how to solve the technical problem underlying the patent-in-suit.

5.5.2 The Appellant's argument that the skilled being aware from document (26) that polyether polyurethane polymers were compatible with cationic surfactants, would have deduced a favourable impact on the conditioning effect, thus arriving at the claimed compositions can only be seen as the result of an *ex post facto* interpretation of document (26), i.e. an interpretation made with the knowledge of the invention in mind and with the aim of reconstructing on purpose the claimed composition. Furthermore, the technical problem underlying the invention is not to generate a mere good conditioning

effect, but to improve it with respect to the prior art compositions containing a polyacrylic acid polymer. As document (26) does not address any comparison of Aculyn 46 with a polyacrylic acid polymer it cannot suggest the improvement of any property of a composition comprising Aculyn 46 compared to a composition comprising a polyacrylic acid polymer. Hence, that document does not comprise any pointer to improve the conditioning effect of a composition comprising a polyacrylic acid polymer and therefore document (26) does not render obvious the proposed solution to the technical problem underlying the patent in suit. For this reason, the Appellant's argument must be rejected.

5.5.3 Accordingly, there is no suggestion in document (26), to support the Appellant's objection that it was obvious to replace the polyacrylic acid polymer in the composition of the prior art with a polyether polyurethane polymer to provide a oxidative hair dye composition with improved conditioning effect.

5.5.4 For these reasons the Board concludes that the subject-matter of claim 1, and by the same token, that of dependent claims 2 to 27 and that of independent claim 28, relating to a method of oxidatively dyeing and conditioning human hair comprising applying onto the hair the final composition recited in claim 1, involves an inventive step within the meaning of Article 56 EPC.

**Order**

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

1. The decision under appeal is set aside.
  
2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the request (claims 1 to 28) filed during the oral proceedings before the Board, and a description yet to be adapted thereto.

The Registrar

The Chairman

C. Rodríguez Rodríguez

R. Freimuth