Datasheet for the decision of 29 June 2006

Case Number: T 0235/04 - 3.3.10
Application Number: 96112012.8
Publication Number: 0756861
IPC: A61K 7/13
Language of the proceedings: EN
Title of invention: Composition for dyeing of human hair
Patentee: KAO CORPORATION
Opponent: L'Oréal - D.I.P.I.
Headword: Composition for dyeing of human hair/KAO
Relevant legal provisions: EPC Art. 54, 56
Keyword: 
"Novelty (yes)"
"Inventive step (no) - effect not made credible within the whole breadth of claim - reformulation of technical problem - obvious solution"
Decisions cited: T 0666/89, T 0270/90, T 0565/90, T 0626/90, T 0939/92, T 0355/97, T 0941/98, T 0836/02, T 0176/04
Catchword: -
DECISION of the Technical Board of Appeal 3.3.10 of 29 June 2006

Appellant: L'Oréal - D.I.P.I.
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Representative: -

Respondent: KAO CORPORATION
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Composition of the Board:

Chairman: R. Freimuth
Members: J.-C. Schmid
D. S. Rogers
Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal on 13 February 2004 against the interlocutory decision of the Opposition Division, posted on 19 December 2003, which found that the European patent No. 756 861 in the form as amended during opposition proceedings according to the then pending main request 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 Article 100(a) EPC, in particular on the grounds of lack of novelty and inventive step and Article 100(c) EPC, extension of the subject-matter beyond the content of the application as filed. Inter alia the following documents were submitted in the opposition proceedings:

(1) GB-A-2 173 515,
(2) GB-A-2 168 082,
(3) US-A-4 964 874 and

III. The Opposition Division held that the amended set of claims filed on 4 February 2003 satisfied the requirements of the EPC. The Opposition Division considered that the disclaimer present in the granted claims did not contribute to the scope of the claimed subject-matter and thus could be deleted without infringing the requirements of Article 123(2) and (3).
EPC. The Opposition Division acknowledged novelty with respect to document (4) since that document did not disclose any direct cationic dye. The Opposition Division held that the opponent's argumentation with respect to inventive step was not convincing since none of the cited documents gave a hint to the skilled person to prepare the dyeing composition of claim 1.

IV.

At the oral proceedings before the Board, held on 29 June 2006, the Respondent (Proprietor of the patent) defended the maintenance of the patent in suit on the basis of a main request, identical to the request which was found to meet the requirement of the EPC by the Opposition Division, or, subsidiarily, on the basis of auxiliary request 1 submitted on 17 May 2006, or on the basis of auxiliary request 2 filed at the oral proceedings.

Independent claim 1 of the main request read as follows:
"1. Composition for dyeing of human hair, comprising at least one direct cationic dye in an aqueous or aqueous-alcoholic medium, containing from 0.1% to 7.5% by wt., calculated to the total composition, of at least one hydroxy-C₂-C₄-alkyl Guar gum or the quaternary salts thereof, and 0.1% to 2.5%, calculated to the total composition, of at least one hair conditioning cationic polymer."

Claim 1 of auxiliary request 1 differed from that of the main request exclusively in that the direct cationic dye was "selected from

Basic Blue 6     C.I.-No. 51,175;
Basic Blue 7     C.I.-No. 42,595;
Basic Blue 9     C.I. No. 52,015;
Basic Blue 26  C.I.-No. 44,045;
Basic Blue 41  C.I.-No. 11,154;
Basic Blue 99  C.I.-No. 56,059;
Basic Brown 4  C.I.-No. 21,010;
Basic Brown 16  C.I.-No. 12,250;
Basic Brown 17  C.I.-No. 12,251;
Basic Green 1  C.I.-No. 42,040;
Basic Red 2  C.I.-No. 52,240;
Basic Red 22  C.I.-No. 11,055;
Basic Red 76  C.I.-No. 12,245;
Basic Violet 1  C.I.-No. 42,535;
Basic Violet 3  C.I.-No. 42,555;
Basic Violet 10  C.I.-No. 45,170;
Basic Violet 14  C.I.-No. 42,510;
Basic Yellow 57  C.I.-No. 12,719.

Claim 1 of the auxiliary request 2 differed from that of the auxiliary request 1 exclusively in that the hair conditioning cationic polymer is "selected from quaternized homo- and copolymers of dimethyl diallyl ammonium chloride, quaternary vinyl pyrrolidone copolymers, copolymers from vinyl pyrrolidone and vinyl imidazolinium methochloride and polyamino-polyamide".

V. The submissions of the Appellant can be summarized as follows:

As regards novelty, the Appellant held that the subject-matter of claim 1 according to the main request lacked novelty in view of examples 1 and 2 of document (1) and example 4 of document (2) by arguing essentially
- that according to established case law, in examining novelty, the teaching of a document is not limited
to its worked examples and thus documents (1) and (2) had to be considered as a whole,
- that examples 1 and 2 of document (1) and example 4 of document (2) disclosed all components of the claimed compositions apart from the presence of a direct cationic dye,
- that the compositions claimed comprised a direct dye, examples thereof including cationic dyes and
- that a skilled person in view of the explicit disclosure of the dyes listed in the description the skilled person would have reproduced these examples using a cationic dye, inevitably arriving at the composition as claimed in the patent suit.

As regards inventive step, the Appellant held that the claimed subject-matter lacked an inventive step with respect to document (1), document (2), document (4) and the combination of document (3) with document (2). The Appellant submitted comparative data with its grounds of appeal in order to show that the replacement of hydroxyl ethyl cellulose by hydroxypropyl guar in a dye composition comprising a direct cationic dye conveyed no improvement of stability and dyeing effect to the composition. The Appellant also filed with its grounds of appeal the document

to show inter alia that amodimeticone was a conditioning agent.

At the oral proceedings the Appellant requested the Board to disregard the comparative data filed by the
Respondent on 17 May 2006 as being late filed. As regards the substance of the Respondent's comparative example, the Appellant had no objection to the choice of the dyes for carrying out the comparative test. Nevertheless, the Appellant submitted that the improvement of the colouring intensity of Basic red compared to the nitro dye, as measured with a laboratory chronometer, was meaningless since human eyes were not capable of seeing any difference in the colour intensity. The purpose of a hair dyeing composition was to dye human hair in a manner to be perceptible by human eyes and not by a sophisticated apparatus. Furthermore, the Appellant argued that there was no evidence that the improvement of colouring intensity was necessarily due to the cationic nature of the dye. It could also be due to the molecular structure of the particular cationic dye used. In this respect the Appellant pointed out that basic red 76 was a specific cationic azo dye while the claimed compositions encompassed all types of cationic dyes, including inter alia triphenylmethane dyes having a different molecular structure. To arrive at the conclusion that the improved colouring intensity was due to the cationic character of the dye, more than one comparative example would have been necessary, using cationic dyes having different molecular structures. The comparative example was made with only one cationic dye. From this it could not be concluded that the effect was due to the presence of a cation and thus it could further not be concluded that the dyeing effect showed was obtained with all cationic dyes. In support thereof the Appellant referred to its own comparative data which showed that the colouring intensity of
different cationic dyes in an identical composition varied considerably.

VI. Concerning novelty of the subject-matter of the claims, the Respondent submitted that the direct dyes used in the examples of documents (1) and (2) were not cationic.

As regards inventive step the Respondent argued that document (1) could be regarded as the closest prior art. The difference with respect to the claimed subject-matter was that instead of a neutral dye, which was used in example 1 of document (1), cationic dyes were present in the composition as an essential ingredient. Starting from that document the Respondent defined the technical problem underlying the invention as the provision of a hair dyeing composition having a better colouring intensity and good conditioning. The Respondent stressed that in view of the examples and paragraph [0030] of the specification of the patent in suit and the comparative test data submitted on 17 May 2006 it was clear that this problem was solved by the features of independent claim 1 according to any request. The comparative test data compared a dyeing composition comprising a red nitro neutral dye with a composition comprising Basic red 76 (a typical red cationic dye), the only difference between the two compositions residing in the nature of the dye (nitro versus cationic). The Respondent submitted that this test clearly showed a higher colouring intensity for the cationic dyestuff compared to the nitro dye.

The Respondent further submitted that the first instance decided on inventive step in its favour. The Respondent therefore argued that the burden of proof
lay on the Appellant to show that the claimed compositions did not achieve better colouring intensity rather than on the Respondent to show that this benefit was achieved over the breadth of the claim.

The Respondent concluded that the improvement of the dyeing effect shown was not foreseeable in view of either document (1) or (2).

VII. 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 and the patent be maintained on the basis of the main request filed on 4 February 2003, or, alternatively, on the basis of auxiliary request 1 filed on 17 May 2006, or on the basis of auxiliary request 2 filed at the oral proceedings.

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

**Reasons for the Decision**

1. The appeal is admissible.

**Main request**

2. **Amendments**

Claim 1 of the main request is based on original claims 1, 4 and 6 and page 6, line 11 of the original application. Therefore, the Board concurs with the
findings of the Opposition Division that there are no formal objections to the present claims under Article 123(2) EPC.

The subject-matter of claim 1 also meets the requirements of Articles 84 and 123(3) EPC. The Appellant did not raise objections anymore with respect to these issues and the Board sees no reason to take a different view. Therefore, it is not necessary to give detailed reasons in this respect.

3. **Novelty**

3.1 The Appellant bases its objection of lack of novelty with respect to documents (1) and (2) on the combination of the examples in each document with the general part of the respective description in each document.

3.2 In this context, the Board firstly notes that according to the established case law of the Boards of Appeal regarding the examination of novelty, the teaching of a document is indeed not confined to the detailed information given in the examples, but embraces the disclosure of that document as a whole. However, in deciding what can be directly and unambiguously derived from a document, its different passages can only be combined if the skilled reader would see a good reason for combining them (see e.g. T 666/89, OJ EPO 1993, 495; T 565/90 and in particular T 941/98, point 5 of the reasons; neither published in OJ EPO).

3.3 The aqueous composition of example 1 in document (1) discloses a particular combination of various
components including a hydroxyl-C$_2$-C$_4$-alkyl Guar gum within the claimed weight range, a hair conditioning cationic polymer (emulsified Amodimethicone with tallotrimonium chloride and nonoxynol-10) within the claimed weight range and a direct nitro dye (N$^4$-(2-hydroxyethyl)-2-nitro-p-phenylene diamine and 4-nitro-o-phenylene diamine).

The description of document (1) indicates that there is provided a composition for dyeing human hair comprising any direct dye. Examples of such direct dyes include, apart from nitro dyes, inter alia, basic, i.e. cationic, dyes (page 1, lines 19, 20, 25 and 26).

Thus, having regard to these relevant passages, there is no specific disclosure in document (1) to combine example 1 with the description for replacing the nitro dyes of the composition of example 1 by a cationic dye listed inter alia in the description since the example does not disclose more than a particular combination having specific components and weight ranges in a particular combination. The skilled reader of document (1) does not have any indication to select particularly cationic dyes from the generic disclosure of the description which also indicates other dyes to be equally suitable, and to combine them particularly with the composition of example 1. The same reasoning holds good for the assessment of novelty with respect to example 2 of document (1).

The compositions claimed in the patent in suit are therefore not specifically disclosed in document (1).
3.5 The same situation arises with respect to example 4 and the generic disclosure in the description of document (2) resulting in the same conclusion that the compositions claimed are not specifically disclosed in that document.

3.6 Consequently, neither document (1) nor document (2) are novelty-destroying for the subject-matter of claim 1 (Article 54 EPC).

4. Inventive step

4.1 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.

4.2 The patent in suit is directed to compositions for dyeing of human hair comprising a direct cationic dye, a conditioning cationic polymer and a hydroxyalkyl guar gum. It aims at increasing the colouring intensity of the dyeing composition and providing good conditioning.

Documents (1) and (2), both disclose compositions for dyeing of human hair comprising a direct dye and a cationic surfactant. Direct dyes having various types of chromophores and including cationic dyes are described in those documents, while only direct nitro dyes have been used in all the examples thereof. The cationic surfactant content of the composition is
preferably in the range of 0.1 to 3% by weight and may be a quaternary ammonium functional polymeric silicone (document (1), page 3, lines 18 to 40; document (2), page 2, lines 37 to 39, page 3, lines 4 to 6). The compositions may also contain hydroxypropyl guar gum (see examples 1 and 2 of document (1) and example 4 of document (2)).

Documents (1) and (2) aim at increasing colouring intensity and at achieving hair conditioning benefits, i.e. at the same objectives as the claimed invention (document (1), page 1, lines 8 to 10 and 13 to 15; document (2), page 1, lines 8 to 13).

Thus, the Board considers, in agreement with the Parties, that those compositions indicated above which are described in both, documents (1) and (2), represent the closest state of the art, and, hence, the starting point in the assessment of inventive step.

4.3 In view of this state of the art, the Respondent submitted during the oral proceedings that the technical problem underlying the patent in suit, consisted in providing a composition for dyeing human hair having a better colouring intensity and good conditioning properties.

4.4 The patent in suit proposes as the solution the composition according to claim 1 which is characterized by the presence of a direct cationic dye.

4.5 The Appellant and the Respondent were divided as to whether or not the evidence presented, namely the comparative test report submitted by the Respondent on
17 May 2006, convincingly showed that the technical problem defined above (point 4.3) was successfully solved by the claimed compositions within the whole scope of claim 1.

The comparative test report demonstrates superior colouring intensity of a composition according to the invention compared with a composition representing the closest prior art document (1) and document (2). In particular, the composition according to claim 1 comprising the dye Basic red 76, which is cationic and includes the azo chromophore, shows a colouring intensity, indicated in the form of L value, of 51.32 whereas the comparative composition, differing from the composition according to the invention exclusively by using a nitro dye, shows a higher value of 52.39, thereby indicating an inferior colouring intensity.

The Appellant did not contest that this comparative test report represents a fair comparison of the claimed composition with respect to the closest prior art and that the colouring intensity is improved. Nevertheless, the Appellant argued that this improvement was meaningless since the human eye was not capable of seeing this difference of colouring intensity. The Board cannot follow this merely speculative argument, since in the present case the technical effect is significant and is indicated by a technical method of measurement which is accurate and reproducible.

Hence, the Board is satisfied that the comparative test report provided represents a fair comparison between the claimed invention and the closest prior art and that it shows that Basic red 76 gives a better
4.6 A purported technical effect, in the present case the improved colouring intensity of the claimed compositions, can only form the basis for a finding of inventive step if it would be credible that substantially all the claimed compositions possessed this improvement (see decision T 939/92, OJ 1996, 309, point 2.5.4 of the reasons).

Therefore, it must be examined whether or not the Respondent's extrapolation of the presence of an improved colouring intensity from the sole tested composition comprising a particular cationic dye to all the compositions claimed, i.e. comprising any direct cationic dye, is credible.

The feature "direct cationic dyes" in present claim 1 comprises dyes having a chromophore positively charged or substituted by a cationic group and encompasses numerous classes of dyes having various types of chromophores. Cationic dyes covered by the claimed invention are exemplified on page 2, line 37 to page 3, line 4 of the patent specification and include in particular triphenylmethane dyes, such as basic violet 14, basic blue 7, basic blue 26 or basic violet 3, xanthene dyes, such as basic violet 10, azine dyes, such as basic blue 6, basic blue 7, basic red 2 or basic violet 10, naphthoquinone dyes, such as basic blue 99 or azo dyes, such as basic brown 16, basic brown 17, basic yellow 57 or basic red 76. Thus, present claim 1 covers compositions including any of colouring intensity than a nitro dye in a dyeing composition.
the above classes of dyes having different types of chromophores.

The Respondent submitted that the improvement of the colouring intensity was due to the cationic character of the dye while the Appellant argued that there was no evidence that the improvement of colouring intensity is necessarily due to the cationic nature of the dye. The Appellant referred to its comparative data submitted with its grounds of appeal which data showed that compositions differing from each other by the type of chromophore present in the cationic dye, that is a composition comprising basic blue 99 (naphthoquinone chromophore) versus a composition comprising basic brown 17 (azo chromophore), had different colouring intensity (see point 3.2, series (a) and (b) of Appellant's comparative data).

This test report shows that by varying the type of chromophore present in the cationic dye, not just the colour, but also the colouring intensity varies, with the consequence that the Respondent's allegation that the presence of a cation is the sole structural element necessary for improving colouring intensity with respect to nitro dyes used in the closest prior art is not credible.

Consequently, the comparative test report made with only one particular cationic dye does not allow any conclusion as to whether the technical benefits of the claimed composition vis-à-vis the composition disclosed in the closest prior art documents (1) or (2) are achieved for any direct cationic dye, i.e. within the whole scope of claim 1. It follows that the formulation
of the technical problem as put forward by the Respondent cannot be accepted, since the purported improvement has not been demonstrated to arise within the whole area that is claimed. When defining the technical problem, an effect cannot be retained if the promised result is not attainable throughout the entire range covered by the claimed subject matter (see T 626/90, point 4.3.2 of the reasons, not published in OJ EPO).

4.7 Since in the present case the technical effect on which the inventive step is based (improvement of colouring intensity) lacks the required experimental support to render it credible over the whole scope of the claimed subject-matter, the technical problem as defined above (see point 4.4) needs to be redefined in a less ambitious way. In view of the teaching of documents (1) and (2) the technical problem can be seen as merely providing alternative dyeing compositions having good conditioning properties.

4.8 Irrespective of the fact that the Respondent submitted a comparative test report in order to support the purported improvement in colouring intensity of the claimed invention, the Respondent argued that it had not to carry the onus of proof for the presence of this improvement, and in particular its presence within the whole scope of the claimed subject-matter.

However, according to the established jurisprudence of the Boards of Appeal, each of the parties to the proceedings carries the burden of proof for the facts it alleges. If a party, whose arguments rest on these alleged facts, does not discharge its burden of proof,
this goes to the detriment of that party (in the present case the Respondent) and such a party may not shift the onus of proof onto the other party (in this case the Appellant) - see e.g. T 270/90, OJ EPO 1993, 725, point 2.1 of the reasons; T 355/97, point 2.5.1 of the reasons; T 836/02, point 4.5 of the reasons; T 176/04, point 5.6.3 of the reasons (all but T 270/90 not published in OJ EPO).

In the present case, where the Respondent relies on technical benefits, i.e. improved colouring intensity, with respect to the compositions disclosed in documents (1) or (2), the burden of proof for those facts lies with the Respondent. Since the Respondent did not present corroborating evidence making it credible that the purported improvement in colouring intensity is achieved within the whole scope of the subject-matter claimed (see point 4.6 above), the Respondent has not discharged its burden of proof.

Consequently, the alleged advantage of the claimed compositions over the closest prior art is not adequately supported by the evidence with the consequence that it cannot be taken into account (see point 4.6 above).

4.9 It thus remains to be decided whether or not the proposed solution, namely the compositions according to claim 1, to the objective technical problem is obvious in view of the state of the art.

Document (1) and (2) describe hair dyeing compositions comprising direct dyes encompassing cationic dyes used in the claimed compositions (see points 4.2 and 4.6
above). A particular example of these direct cationic dyes is basic violet 14 (document (1), page 2, lines 31 to 45; document (2), page 2, line 10 to 23). Thus any direct dye so covered, including therefore cationic dyes, and in particular basic violet 14 specified in the patent in suit, is within the ambit envisaged by the general disclosure of documents (1) and (2) and is taught to be suitable for dyeing compositions.

The choice of specific direct dyes within the ambit of documents (1) or (2), e.g. cationic dyes as indicated in present claim 1 has not been shown to result in a technical benefit vis-à-vis the closest prior art (see point 4.6 and 4.7 above). Therefore the incorporation of a direct dye which is cationic cannot be treated as either critical or as a purposive choice for solving the objective problem underlying the patent in suit, but merely as an arbitrary restriction of no technical significance.

On this basis the arbitrary choice of a direct cationic dye within the ambit of direct dyes envisaged by the general disclosure of documents (1) and (2) can only be seen as lying within the routine activity of the skilled person faced with the objective problem of providing alternative dyeing compositions without requiring any inventive ingenuity.

4.10 For these reasons, the subject-matter of claim 1 is obvious in the light of documents (1) or (2).

4.11 As a result, the Respondent's main request is not allowable for lack of inventive step pursuant to Article 56 EPC.
Auxiliary request 1

5. Amendments (Article 123 EPC)

Claim 1 of auxiliary request 1 differs from that of the main request exclusively in that the cationic dye is selected from a list of individual dyes. This amendment is supported by page 4, lines 2 to 19 of the application as filed and thus satisfies the requirement of Article 123(2) EPC.

As this amendment results in a restriction of the claimed scope, the requirement of Article 123(3) is consequently also satisfied.

6. Novelty

In view of the findings of the Board with respect to the main request indicated in point 3 above, the Board considers the requirement of Article 54 EPC to be satisfied also with respect to claim 1 of auxiliary request 1 which is narrower in scope than claim 1 of the main request.

7. Inventive step

Documents (1) and (2) remain the closest prior art. Present claim 1 is restricted to compositions comprising particular individual cationic dyes, inter alia basic violet 14. It is still not credible within this narrower scope claimed that the problem of providing dyeing compositions with improved colouring intensity has been solved by any individual cationic
dyes listed in claim 1, since they still have various different chromophores. Accordingly the objective technical problem remains to provide further dyeing compositions as defined in point 4.7 above.

As the direct cationic dyes comprised in the compositions of present claim 1 still include basic violet 14, which is specifically disclosed in documents (1) and (2), the reasoning and the conclusion in points 4.9 to 4.11 above hold good for this request as well.

8. In these circumstances, the Appellant's auxiliary request 1 is not allowable for lack of inventive step pursuant to Article 56 EPC.

Auxiliary request 2

9. Amendments (Article 123 EPC)

The limitation to particular cationic polymers in claim 1 neither generates added subject-matter, since those polymers are disclosed on page 6, paragraph 3 of the application as filed, nor extends the protection conferred. Amended claim 1 therefore satisfies the requirements of Article 123(2) and (3) EPC.

10. Novelty

In view of the findings of the Board with respect to the main request indicated in point 3 above, the Board considers the requirement of Article 54 EPC to be satisfied also with respect to claim 1 of the second
auxiliary request which is narrower in scope than claim 1 of the main request.

11. **Inventive step**

Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 exclusively in that the compositions are limited to particular cationic conditioning polymers.

As the cationic dyes incorporated into the claimed compositions remain the same as in auxiliary request 1 the objective technical problem also remains the provision of further dyeing compositions vis-à-vis the closest prior art documents (1) and (2).

The cationic conditioning polymers indicated in present claim 1 are conventional in the art and are even commercially available, as conceded in the patent specification on page 3, line 34 to 41, e.g. Merquat, Grafquat or Luviquat.

The limitation to those particular cationic conditioning polymers is not linked to any technical effect. Thus, the incorporation of particular cationic conditioning polymers well known in the art is to be considered neither as critical nor as a purposive choice for solving the objective problem underlying the patent in suit, but merely as an arbitrary restriction of no technical significance.

The considerations concerning inventive step with respect to the main request and auxiliary request 1 are neither based on nor affected by the indication of
specific conditioning polymers. A choice of particular conditioning polymer cannot provide the claimed compositions with any inventive ingenuity as that choice is arbitrary and, thus, within the routine activity of a skilled person.

Therefore the conclusion drawn in points 4.9 to 4.11 and 7 supra with regard to the main request and auxiliary request 1 still applies for auxiliary request 2, i.e. the subject-matter of claim 1 of that request is obvious.

12. In these circumstances, the Appellant's auxiliary request 2 is not allowable for lack of inventive step pursuant to Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar

The Chairman

C. Moser

R. Freimuth