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Datasheet for the decision of 26 July 2024

Case Number: T 0095/22 - 3.3.10

Application Number: 16716222.1

Publication Number: 3283050

IPC: A61K8/49, A61K8/44, A61Q5/06

Language of the proceedings: EN

Title of invention:
HAIR DYEING COMPOSITION

Patent Proprietor:
Kao Germany GmbH

Opponent:
L'OREAL

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 0095/22 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 26 July 2024

Appellant: (Patent Proprietor)	Kao Germany GmbH Pfungstädter Str. 98-100 64297 Darmstadt (DE)
Representative:	Grit, Mustafa Kao Germany GmbH Pfungstädter Strasse 98-100 64297 Darmstadt (DE)
Respondent: (Opponent)	L'OREAL 14 rue Royale 75008 Paris (FR)
Representative:	L'Oreal Service D.I.P.I. 9, rue Pierre Dreyfus 92110 Clichy (FR)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 11 November 2021 revoking European patent No. 3283050 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	P. Gryczka
Members:	M. Kollmannsberger
	F. Blumer

Summary of Facts and Submissions

I. The patent proprietor appealed the decision of the Opposition Division to revoke its patent EP 3 283 050 under Article 101(3)(b) EPC.

II. The patent was opposed under Articles 100(a) EPC for lack of novelty and inventive step (Articles 54/56 EPC).

In its decision the Opposition Division concluded that neither the compositions defined in claim 1 of the patent proprietor's main request, nor the compositions defined in claim 1 of any of the auxiliary requests were based on an inventive step over a combination of D1 and D5/D6.

III. The patent deals with hair dyeing compositions containing direct dyes, which are applied together with a reducing agent. The independent composition claim 1 of the main request underlying the appealed decision reads as follows:

"*A ready to use aqueous composition for coloring hair comprising one or more direct dyes selected from the compounds (I), (II), (III), (IV) and (V)* [structural formulae omitted]
and one or more reducing agent,
wherein the reducing agent is not sulfite salts".

IV. The following documents are referred to in the present decision:

D1: EP 2 606 873 A1

D2: EP 2 606 875 A1

D3: US 7,824,449 B2

D4: EP 1 803 434 A1

D5: WO 2010/032034 A2

D6: US 5,104,413

V. The appellant (patent proprietor) argued that the compositions defined in claim 1 were not obviously derivable from D1. D1 did not deal with reductive, but with oxidative hair dyeing processes. The reducing agents used in D1 were used only for stabilisation of precursor solutions during storage and were no longer present in the final hair dyeing compositions. The idea underlying the claimed invention was that compounds (I)-(V) could be used in reductive hair dyeing processes, the presence of the reducing agents leading to improvements as regards intensity and homogeneity of the hair dyeing. In the appellant's view the closest state of the art rather were the compositions defined in D5 which dealt with reductive hair dyeing processes. Results of comparative tests in the patent showed that the claimed compositions lead to unexpectedly favourable results compared to the dyes used in D5.

VI. The respondent (opponent) submitted that the Opposition Division's decision was correct. D1 was the closest state of the art since it dealt with the same hair dyes (I)-(V). The compositions defined in claim 1 of the appellant's main request differed from the compositions disclosed in this document only in that a different reducing agent had been chosen. Since different

reducing agents were generally known to be usable from D5 and D6 such a change did not involve any inventive activity. Moreover, the claimed compositions also lacked an inventive step when starting from D3. That the use of reducing agents could lead to improved hair dyeing properties was known from D6.

VII. Oral proceedings were held on 26 July 2024.

VIII. The appellant requested the decision of the Opposition Division to be set aside and the patent to be maintained on the basis of the main request, or on any of auxiliary requests 1 to 5, all underlying the appealed decision.

The respondent requested the appeal to be dismissed.

IX. The decision was announced at the end of the oral proceedings.

Reasons for the Decision

1. The appeal is admissible.

2. Novelty of the compositions defined in the claims of the appellant's main request was undisputed. It was likewise undisputed that claim 1 of the applicant's main request, which is the only claim amended with respect to the claims of the granted patent, did not extend beyond the original application documents (Article 123(2) EPC) and that the amendment did not

lead to unclear claim drafting (Article 84 EPC). The only disputed issue was inventive step.

3. Inventive step (Article 56 EPC).

3.1 The patent relates to a hair dyeing composition comprising specified hair dyes (I) to (V) and a reducing agent. The patent states that hair dyeing processes using direct dyes and a reducing agent are known from the prior art, but that the aim of the patent was to provide homogeneous and more intensive hair colouring than the known processes, see paragraphs [0001] to [0008] of the description. In example 1 of the patent a hair dyeing experiment is carried out in which a reductive hair dyeing protocol using hair dye (III) and a hair dye from D5 are compared, compound (III) leading to higher colour intensity. Likewise it is shown that the dyeing results are improved when a reducing agent is added to a solution containing compound (III).

Claim 1 of the appellant's main request is directed to a composition comprising one or more hair dyes (I) to (V) and a reducing agent, the reducing agent not being a sulfite salt.

3.2 In the appealed decision D1 was chosen as closest prior art. Particular reference was made to examples 3 and 4 of D1 which disclosed a composition containing dyes (I) and (III) and a sulfite as a reducing agent. The difference of claim 1 of the main request compared to D1 was the use of reducing agents other than sulfites. The Opposition Division then defined the objective technical problem to be solved as the provision of alternative hair dyeing compositions, since no

comparative tests re D1 were on file. With reference to D5 and D6 the choice of other reducing agents in hair dyeing compositions was considered obvious and the provision of the claimed compositions was thus considered to lack an inventive step.

3.3 Choice of the closest prior art.

3.3.1 The appellant contested the choice of D1 as closest prior art. The appellant considered rather one of D5 and D6 to represent the closest state of the art.

3.3.2 However, lack of inventive step starting from D5 was not objected to, neither by the respondent, nor by the Opposition Division. Thus, it is undisputed that starting from D5 the provision of the claimed hair dyeing compositions involves an inventive step.

3.3.3 On the other hand, the decision under appeal states that the provision of the claimed compositions lacks an inventive step when starting from D1, in combination with D5 and D6. Whether this finding was correct is to be reviewed in appeal proceedings, in addition to the objections starting from D2-D4, in particular from D3, which had been raised and maintained by the opponent in opposition proceedings. The concept of the "closest prior art" is basically a tool to reduce the number of inventive step attacks to be examined. If, as argued by the appellant, the teachings of D1-D4 are "further away" from the claimed invention than the teaching of D5, then the result of an inventive step analysis starting from D1-D4 must anyway come to the conclusion that an inventive step is present. This applies independent of the question of which document is considered to come "closest" to the claimed invention.

3.3.4 Thus, it needs to be decided whether the claimed compositions were obvious or not for a skilled person considering D1-D4 as a starting point.

3.4 Starting from D1, D2 or D4

3.4.1 D1 deals with *oxidative* hair dyeing. D1 discloses aqueous *oxidizing* compositions comprising an oxidizing agent, in particular hydrogen peroxide, amines, urea, carbonates, and triglycerides, and optionally a dye. The oxidizing composition lightens the hair, and, if a dye is present, colouring takes place, see paragraph [0004].

3.4.2 It is correct that D1 also mentions the optional presence of reducing agents, see paragraph [0055]. However, as pointed out by the appellant, this passage has to be read in context. Immediately following, in paragraph [0056], the examples are said to illustrate the invention.

3.4.3 Examples 1 and 2 relate to oxidative bleaching compositions containing 6% by weight of hydrogen peroxide.

3.4.4 Dyeing compositions E and F of example 4 contain dyes (I) and (III) of the present claims. Dyeing composition F contains additionally precursors of oxidative hair dyes.

The dyeing compositions of example 4 are obtained by using the compositions of example 3 as a basis. In example 3, a first composition containing amines, urea, carbonates, and the triglyceride is combined with a 12% aqueous hydrogen peroxide solution.This composition is used for hair bleaching in example 3, or, once combined

with the dyestuff solutions of example 4, for hair dyeing.

The first solution in example 3 contains 0,5% by weight of sodium sulfite. However, once combined with the 12% hydrogen peroxide solution the resulting composition is clearly an oxidative bleaching composition. The same applies for the compositions of example 4, additionally containing oxidative dye precursors and/or direct dyes. As pointed out by the appellant, the sulfite present in the composition of example 3 clearly has no role in the hair dyeing process as such; it may possibly be present to stabilize the precursor composition against oxidation before use.

In view of the oxidative environment caused by the excess of hydrogen peroxide it is clear that the final dyeing solution ("*ready to use*", as defined in claim 1) does not contain contain any sulfite, and thus any reducing agent, at all. The final compositions applied in the bleaching and dyeing process in D1 are oxidizing compositions, as set out in paragraphs [0001] to [0004] of this document.

3.4.5 The respondent argued during oral proceedings that the absence of the reducing agent in the final solution used for dyeing in example 4 of D1 was mere speculation. No data were on file that could prove such a situation. The burden of proof lay with the appellant.

However, that an excess of an oxidizing agent oxidizes a reducing agent belongs to common chemical knowledge. If the respondent argues that, in this specific case, such a redox reaction for whatever reason does not take

place, it would have been the respondent's task to substantiate such an unusual situation.

3.4.6 Thus, D1 discloses the use of dyes (I) and (III) as defined in claim 1 in the context of an oxidative hair dyeing process.

3.4.7 The difference of the compositions defined in claim 1 of the main request with respect to the disclosure of D1 is the presence of a reducing agent in the ready to use composition.

3.4.8 The presence of the reducing agent allows the colouring agents (I)-(V) to be used in a reductive hair dyeing process. That the presence of a reducing agent leads to favourable hair dyeing properties is shown in example 1 of the patent. However, improved results compared to the oxidative hair colouring compositions disclosed in D1 have not been substantiated.

3.4.9 Thus, the least ambitious technical problem to be solved that can be formulated starting from D1 is the provision of alternative hair dyeing compositions leading to homogeneous and intense hair colouring. This problem has been solved by the provision the compositions defined in claim 1, which are characterized by the presence of a reducing agent other than sulfite.

3.4.10 A skilled person, starting from a document dealing with *oxidative* hair dyeing like D1, would not have arrived at the compositions defined in the present claims, useful in a *reductive* hair dyeing process when looking for such alternatives. None of the cited documents disclose compounds (I)-(V) to be useful in a reductive hair dyeing process. The documents dealing with

reductive hair dyeing processes, D5 and D6, do not use compounds (I)-(V).

3.4.11 The respondent's main argument was that, since the composition used in example 4 of D1 already uses a reducing agent, namely sodium sulfite, simply choosing a different reducing agent would not need any inventive activity.

However, as set out above, the ready to use composition in example 4 of D1 is an oxidative composition and does not contain any reducing agent. If one starts from the compositions disclosed in D1 the question to be answered is not whether it was obvious to use a different reducing agent other than the sulfite present in the precursor solution in D1. The question to be answered is whether it was obvious to use dyes (I) to (V) in reductive hair dyeing processes in the first place, i. e. to combine these dyes with reducing agents as defined in claim 1. This is not the case, since none of the cited documents contains any disclosure in this respect.

3.4.12 A further argument was that D6 showed the presence of reducing agents, in particular cysteine derivatives, to be beneficial for certain direct dyes. Reference was made to example 1 and in particular to the inventive and control compositions in table 1.

However, a skilled person could not draw any conclusions from these experiments with respect to dyes (I)-(V) defined in claim 1, since these dyes are not used in D6. Moreover, from the cited table it is not even clear whether any beneficial properties are attributable to the presence of the cysteine derivative

or to the presence of benzyl alcohol as a penetration enhancer, or to both.

3.4.13 For these reasons, starting from D1 the provision of the hair colouring compositions defined in claim 1 of the appellant's main request involves an inventive step.

3.4.14 Also D2 and D4 disclose the use of compounds (I)-(V) in oxidative hair dyeing compositions. Thus, the above analysis applies likewise when starting from D2 and D4.

3.5 Starting from D3

3.5.1 D3 deals with hair dyeing compositions containing specific triazene dyes, see claim 1 or column 2, lines 15-24. The triazene dyes are direct dyes. The idea of using the triazene dyes is that they are expected to better adhere to the hair due to the triazene group which is capable of being deprotonated, see column 1, lines 35-55.

3.5.2 Formulation examples 1-3 of D3 relate to single part hair dyeing solutions, whereas examples 4-15 relate to two-part compositions using a second oxidative composition containing hydrogen peroxide. While examples 1 and 2 use only triazene dyes, example 3 contains additionally "*direct dye E2*", which corresponds to compound (III) as defined in present claim 1.

3.5.3 The difference of claim 1 of the appellant's main request compared to the compositions disclosed in example 3 of D3 is the presence of a reducing agent.

3.5.4 Since the distinguishing feature with respect to D3 is the same as the distinguishing feature with respect to D1 discussed above, the inventive step analysis is the same and must lead to the same result. Like D1, D3 does not contain any hint to use compound (III) together with a reducing agent.

3.5.5 Moreover, the intensive colouring which is the goal of D3 is caused by the triazene dyes being the object of this document, see column 2, lines 15-24. Thus, a skilled person, even if starting from the disclosure of D3, would have to first realize that intensive and homogeneous colouring may also be achieved by the use of compound (III) alone. There is no disclosure in D3 to this effect, be it with or without the use of reducing agents.

3.5.6 Thus, also starting from D3 the provision of the hair colouring compositions defined in claim 1 of the appellant's main request involves an inventive step.

4. No objection remaining, the patent can be maintained in amended form under Article 101(3)(a) EPC on the basis of the claims of the appellant's main request in appeal, which corresponds to its main request underlying the appealed decision. The appellant's auxiliary requests need not be considered.

5. Since the patent claims are amended compared to the granted version the description needs to be adapted correspondingly, Article 84 EPC. This was undisputed, and it was likewise undisputed that the case should be remitted to the Opposition Division for this purpose.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The case is remitted to the opposition division with the order to maintain the patent in amended form on the basis of the claims of the main request underlying the appealed decision and a description to be adapted.

The Registrar: The Chairman:

C. Rodríguez Rodríguez P. Gryczka

Decision electronically authenticated