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

**Case Number:** T 0795/12 - 3.3.10

**Application Number:** 07001323.0

**Publication Number:** 1813254

**IPC:** A61K8/39, A61Q5/08, A61Q5/10

**Language of the proceedings:** EN

**Title of invention:**  
Hair bleach composition and hair dye composition

**Patent Proprietor:**  
KAO CORPORATION

**Opponent:**  
Henkel AG & Co. KGaA

**Headword:**

**Relevant legal provisions:**  
EPC Art. 56

**Keyword:**  
Inventive step - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 0795/12 - 3.3.10

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.10**  
**of 19 January 2016**

**Appellant:** Henkel AG & Co. KGaA  
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**Representative:** Henkel AG & Co. KGaA  
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**Respondent:** KAO CORPORATION  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 9 February 2012  
rejecting the opposition filed against European  
patent No. 1813254 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairwoman** C. Komenda  
**Members:** J. Mercey  
C. Schmidt

## Summary of Facts and Submissions

I. The Appellant (Opponent) lodged an appeal against the decision of the Opposition Division rejecting the opposition against European patent No. 1 813 254, which was granted on the basis of three claims, claim 1 of which read as follows:

"A bleach composition or a dye composition for hair which, during use, comprises a mixture of a first composition containing an alkali agent and a second composition containing an oxidizing agent, the bleach or dye composition comprising the following components (A) to (F):

(A) an organic solvent having a partition coefficient (octanol-water) (log P) at 25°C of 0.3-6 and a molecular weight of 200 or less, in an amount of 1-70 wt.%;

(B) an organic solvent having a partition coefficient (octanol-water) (log P) at 25°C of less than 0.3, in an amount of 0-8 wt.% and less than that of component (A);

(C) an alkali agent in an amount of 0.1-10 wt.%;

(D) an oxidizing agent in an amount of 0.1-12 wt.% as reduced to hydrogen peroxide;

(E) water in an amount of 20-70 wt.%, and

(F) a cationic surfactant in an amount of 0.01-10 wt.%, and has a pH of 7.5-12 after mixing of the first composition and the second composition."

II. Notice of Opposition had been filed by the Appellant requesting revocation of the patent as granted in its entirety on the grounds of lack of inventive step. *Inter alia* the following documents were submitted in the opposition proceedings:

(5) JP 11-29443 (English translation) and

(6b) JP 07-330552 (German translation).

- III. The Opposition Division held that the subject-matter of claim 1 as granted involved an inventive step, Example 17 of document (6b) being considered to represent the closest prior art, an improved bleaching effect being recognised in view of the comparative tests filed with letter dated 18 November 2011 as document (7).
- IV. The Appellant submitted that the subject-matter of claim 1 as granted was not inventive over document (6b), the compositions of Examples 4 or 16, and not Example 17, of this document representing the closest prior art. Thus, the composition of Example 4, for example, differed from the claimed compositions only by virtue of one feature, since the pH value of the final composition depended *inter alia* on the amount of alkali agent, such that these two features represented, in effect, only one differentiating feature. On the other hand, Example 17 differed by virtue of the pH value and the amount of water. The compositions of each of Examples 4, 16 and 17 were all one-pack compositions, such that this did not represent a structural difference. However, even when starting from Example 17 as closest prior art, the claimed subject-matter was not inventive. The comparisons made in the experimental report (7) were not fair and thus did not convincingly show that the lower water content was responsible for the improved bleaching effect. Furthermore, document (5), as well as newly filed documents (9) and (10):

(9) Kirk-Othmer Encyclopedia of Chemical Technology, John Wiley & Sons, Inc., 4th Edition, Ed. J. I.

Kroschwitz, 1994, Vol. 12, page 907 and

(10) Ullmann's Encyclopedia of Industrial Chemistry, Wiley-VCH Verlag GmbH & Co, 2002, online edition,

all taught that the alkalisation of an oxidising agent led to an improved bleaching effect, document (5) specifically teaching a pH range for the end composition of 8 to 12. Furthermore, it was common general knowledge that increasing the concentration of the oxidising agent in the bleaching composition would lead to improved bleaching power.

V. The Respondent (Patent proprietor) submitted that the claimed subject-matter was inventive, regardless of whether one started from Example 4, 16 or 17 of document (6b). However, since Example 17 related to a composition wherein the hydrogen peroxide and alkali agent were kept separately before use, it was structurally closer, since the presently claimed subject-matter was also a composition comprising a first composition containing an alkali agent and a second composition containing an oxidising agent. The comparative tests of document (7) showed a surprising improvement in bleaching power resulting from the lower water content, none of the cited prior art teaching to lower the water concentration in order to improve the bleaching effect. Examples 4 and 16 of document (6b) related to one-pack compositions, which did not represent the most promising starting point for the preparation of a multi-pack composition.

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

The Respondent requested that the appeal be dismissed.

VII. Oral proceedings were held on 19 January 2016. 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 (patent as granted)*

2. *Inventive step*

2.1 Claim 1 of the patent in suit is directed to a hair bleach composition comprising a first composition containing an alkali agent and a second composition containing an oxidising agent.

2.2 The Respondent submitted that Example 17 of document (6b) represented the closest prior art, since it also related to a bleaching composition for hair wherein the ingredients were divided *inter alia* into a composition containing hydrogen peroxide (8.5 wt.%), corresponding to present component (D); distearyldimethylammonium chloride (2.0 wt.%), corresponding to present component (F); 2-phenylethanol (2.0 wt.%), corresponding to present component (A); 1,3-butylene glycol (1.0 wt.%), corresponding to present component (B); and water (86.1 wt.%), corresponding to present component (E), and a further composition containing triethanolamine (0.1 wt.%), corresponding to present component (C). After mixing, the final composition had a pH of 4.9, as shown by document (7). The composition of claim 1 of the disputed patent thus differed from said Example by virtue of containing 20-70 wt.% water and the pH of the final composition being 7.5-12.

2.2.1 The Appellant argued that not Example 17, but rather Example 4 (or 16) of document (6b), was the closest state of the art, since Examples 4 and 16 contained components (A), (B) (albeit in an amount of 0 wt.%),

(D), (E) and (F), the amount of water (E) in said Examples being within the range specified in claim 1 of the disputed patent. Said Examples thus differed from the composition of claim 1 of the disputed patent only by virtue of the pH value of the final composition and the absence of an alkali agent. Since, however, the pH of the final composition depended *inter alia* on the amount of alkali agent, these two features represented, in effect, only one differentiating feature. In addition, Example 17, like Examples 4 and 16, also represented a one-pack composition, since the description of the preparation of the product of Example 17 on page 16 of document (6b), in particular the mixing together of certain ingredients at 60°C, implied that the three separate ingredient compositions were combined during the manufacturing process and not mixed together by the user just prior to use. Example 17 was, thus, not structurally closer to the claimed invention than Examples 4 or 16 by virtue of being a multi-pack composition.

2.2.2 The Board holds that Example 17 does indeed disclose a multi-pack composition comprising a composition containing an alkali agent and a further composition containing an oxidising agent, in view of the ingredients of said Example being described as three sets of ingredients ("Inhaltsstoffe" (1), (2) and (3)), ingredients (1) comprising hydrogen peroxide and ingredients (3) consisting of triethanolamine. In contrast, in Tables 2 and 3, the ingredients of Examples 4 and 16, respectively, are presented in a single list. The fact that the ingredients (1) and (2) of Example 17 are mixed together at 60°C does not necessarily imply that this is performed during the manufacturing process, since when taking due care, a skilled user, e.g. a hairdresser, could perform this mixing him-/herself.



Indeed, the final mixing step, namely that of the mixture of (1) and (2) with the triethanolamine (3), is described as taking place during the cooling of the mixture of (1) and (2), such that said Example 17 also discloses a product comprising a hydrogen peroxide containing composition (i.e. a mixture of (1) and (2)), and triethanolamine (3), which are mixed at a temperature below 60°C prior to use.

In view of the presence of this significant structural feature, Example 17 provides the better springboard to the invention, since a one-pack composition does not serve as a suitable starting point for the preparation of a bleaching composition comprising a mixture of two compositions which are mixed with each other prior to use. In addition, Example 17, in contrast to Examples 4 and 16, comprises **all** of the ingredients (A) to (F), albeit the amount of water (E) being greater than that specified in claim 1 of the disputed patent, whereas Examples 4 and 16 contain no alkali agent, all said Examples resulting in a final composition having a pH below that specified in claim 1 of the disputed patent.

- 2.2.3 Thus, the Board considers, in agreement with the Opposition Division and the Respondent, that Example 17 represents the closest prior art and, hence, takes this Example as the starting point when assessing inventive step.
- 2.3 In view of this state of the art, the problem underlying the patent in suit as formulated by the Respondent was the provision of a bleaching composition with improved bleaching power.
- 2.4 As the solution to this problem, the patent in suit proposes the composition according to claim 1 of the

granted patent, characterised by having a water content of 20 to 70 wt.% and a pH of 7.5 to 12 after mixing of the first and second compositions.

2.5 The Appellant and the Respondent were divided as to whether or not the evidence presented convincingly showed the successful solution of the problem defined in point 2.3 above *vis-à-vis* the closest prior art. To demonstrate that the composition achieves the alleged improvement in bleaching power, the Respondent relied on the experimental results of document (7), which show that a composition according to the invention, namely "Additional inventive product" comprising 68.6 wt.% of water has a significantly greater bleaching power than "Additional comparative product 1", namely a composition comprising 76.6 wt.% of water. Thus, the Board holds that it is credible that the problem is solved.

2.5.1 The Appellant challenged the success of the claimed solution arguing that the comparison of these two examples was not fair, since the amount of surfactant (F) in the "Additional comparative product 1" reflecting the prior art was much larger than in the "Additional inventive product", reflecting the invention of the patent in suit. As such, it had not been shown that the effect was convincingly shown to have its origin in the characterising feature(s) of the invention.

The Respondent countered that when changing the amount of water, amounts of other component(s) necessarily had to be changed too and argued that the surfactant had no effect on the bleaching power of the composition, but merely on the conditioning effect.

The Board holds that in the absence of evidence to the contrary, in the form of either a prior art teaching or

control experiments, document (7) having been filed ca. 4 years prior to the oral proceedings before the Board, there would appear to be no reason to assume that the amount of surfactant affects the bleaching power of the composition. It is thus credible that the reduced water content is responsible for the improved bleaching effect.

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

Neither document (6b) itself, nor any of documents (5), (9) or (10), teach that in order to improve the bleaching power of a hair lightening composition, the water content should be reduced. It was not contested that document (6b) teaches water amounts falling within the range claimed in the disputed patent, said document does not, however, teach the criticality thereof, let alone that amounts lower than 70 wt.% result in improved bleaching power when compared to amounts greater than 70 wt.%. Indeed, document (6b) teaches (see page 11, paragraph [0026]) that *inter alia* water may be added to the bleaching compositions without spoiling their performance, said paragraph not suggesting, however, that the amount of water is critical with regard to the bleaching effect. None of documents (5), (9) or (10) refers to the effect of water on the bleaching power. Instead, document (5) teaches the use of an alkali agent and a pH of 9 to 11 to enhance bleaching (see paragraphs [0002] and [0025]). Document (9) teaches (see page 907, lines 22 to 31) the addition of an ammoniacal solution to activate the hydrogen peroxide and the use of bleach accelerators or boosters, such as persalts of ammonium, potassium, or sodium persulphate to increase the

bleaching effect of hair lightening compositions. And finally, document (10) teaches (see page 33, lines 14 to 20) that a base promotes bleaching and the addition of stabilisers, such as sodium pyrophosphate or sodium oxalate, or complexing agents, such as ethylenediaminetetraacetic acid, in order to enhance the bleaching action. Nor did the Appellant cite any particular passages in documents (5), (9) or (10) which taught the effect of the water content on the bleaching power of hair lightening compositions.

- 2.6.1 The Appellant did, however, argue that it was common general knowledge that if the water content of a bleaching composition was reduced and replaced with a surfactant, the concentration of the oxidising (i.e. bleaching) agent was automatically increased in the aqueous phase, which led to improved bleaching power. In this respect it referred to Example 6 of document (6b) which comprised the largest amount of hydrogen peroxide and resulted in the best bleaching effect of all the Examples of said document.

However, no document was provided which backed up this alleged common general knowledge that a higher concentration of oxidising agent resulted in improved bleaching power, Example 6 of document (6b) showing merely that a greater amount, and not necessarily a greater concentration, of hydrogen peroxide results in higher bleaching power.

- 2.7 To summarise, in the Board's judgement, none of the documents cited above renders the claimed invention obvious, either taken alone or in combination.
- 2.8 For these reasons, the Board concludes that the subject-matter of claim 1, and by the same token that of

dependent claims 2 and 3, involves an inventive step within the meaning of Articles 52(1) and 56 EPC.

## Order

### For these reasons it is decided that:

1. The appeal is dismissed.

The Registrar:

The Chairwoman:



C. Rodríguez Rodríguez

C. Komenda

Decision electronically authenticated