Internal distribution code:

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

Datasheet for the decision of 26 September 2019

Case Number: T 2773/17 - 3.3.07

Application Number: 10001713.6

Publication Number: 2361604

IPC: A61K8/38, A61K8/44, A61Q5/10

Language of the proceedings: EN

Title of invention:
Powder hair dye composition based on sodium percarbonate and storage package therefor

Patent Proprietor:
Hoyu Co., Ltd.

Opponents:
Tack, Jens
L'Oréal

Headword:
Hair dye composition/HOYU

Relevant legal provisions:
EPC Art. 114(2), 56
RPBA Art. 13(1)

Keyword:
Late submitted material - document admitted by first instance (yes)
Inventive step - main request and auxiliary requests 1 and 2 (no)
Late-filed auxiliary request - admitted (no)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2773/17 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 26 September 2019

Appellant: (Opponent 1)	Tack, Jens Maximilianstrasse 54 80538 München (DE)
Representative:	Strehl Schübel-Hopf & Partner Maximilianstrasse 54 80538 München (DE)
Respondent: (Patent Proprietor)	Hoyu Co., Ltd. 501, Tokugawa 1-chome, Higashi-ku Nagoya-shi Aichi, 461-8650 (JP)
Representative:	Kuhnen & Wacker Patent- und Rechtsanwaltsbüro PartG mbB Prinz-Ludwig-Straße 40A 85354 Freising (DE)
Party as of right: (Opponent 2)	L'Oréal 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 9 October 2017 rejecting the opposition filed against European patent No. 2361604 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	C. Schmidt
Members:	A. Usuelli
	S. Albrecht

Summary of Facts and Submissions

I. European patent No. 2 361 604 was granted on the basis of 12 claims. Independent claim 1 read as follows:

"1. A storage package obtained by placing a powder hair dye composition for dyeing hair in a storage container with a container wall of a single-layer structure or a multi-layer structure comprising a material selected from polyethylene and polypropylene, wherein the powder hair dye composition contains sodium percarbonate with an active oxygen amount within a range of 12.0 to 15.3 % by mass as a component (A), and additionally contains the sulfate salt of an oxidation dye as a component (C)."

II. Two oppositions were filed against the patent on the grounds that its subject-matter was not sufficiently disclosed and lacked inventive step. The documents cited during the opposition proceedings included the following:

D11: JP 2000-255632
D11a: English translation of JP 2001-255632
D14: JP 2001-253812
D14a: English translation of JP 2001-253812

III. By decision posted on 9 October 2017 the opposition division rejected the opposition.

In its reasoning, the opposition division considered that the skilled person would have had no difficulty in reproducing the subject-matter of the patent over the whole scope of the claims. Thus, the requirement of sufficiency of disclosure was met.

Document D14a was the closest prior art for the assessment of inventive step. The distinguishing features of the storage package defined in claim 1 of the patent over the disclosure of D14a were: 1) the use of polyethylene or polypropylene as the material for the walls of the container, 2) the use of sodium percarbonate having an active oxygen amount in the range of 12.0 to 15.3% and 3) the mandatory presence of a sulfate salt of an oxidation dye. The technical problem was the provision of a package to store hair dye compositions while maintaining safety, the stability of the composition and the appearance of the attached instructions. The relevant prior art documents considered in combination with D14a did not suggest the subject-matter of claim 1 of the patent. The requirements of Article 56 EPC were therefore met.

IV. Opponent-1 (hereinafter: the appellant) lodged an appeal against that decision. In the statement setting out the grounds of appeal filed on 15 February 2018 it contested *inter alia* the conclusions of the opposition division as to both the presence of an inventive step and the admittance of the experimental data included in the patent proprietor's letter of 10 July 2017.

V. In its reply filed on 5 June 2018 the patent-proprietor (hereinafter: the respondent) requested that the appeal be dismissed and filed two auxiliary requests.

Claim 1 of auxiliary request 1 differed from claim 1 of the main request by specifying that:

"... the powder hair dye composition has a content of the component (C) within a range of 0.25 to 40% by mass."

Claim 1 of auxiliary request 2 differed from claim 1 of auxiliary request 1 on account of the addition of the following feature:

"...and where the thickness of the container wall of the storage container is within a range of 0.5 to 2.0 mm."

VI. In a communication pursuant to Article 15(1) RPBA issued on 1 July 2019, the Board commented on inventive step, agreeing with the appellant and the respondent in considering D14a as the closest prior art. It noted that claim 1 of the patent provided a definition of the container wall that also included the walls of the containers disclosed in D11a. It further noted that the skilled person would have considered it obvious to combine the teachings of documents D14a and D11a.

VII. By letter of 26 August 2019 the respondent submitted an additional set of claims as auxiliary request 3. Claim 1 of this request read as follows:

"1. A storage package obtained by placing a powder hair dye composition for dyeing hair in a storage container of paper box with a container wall of a single-layer structure comprising a material selected from polyethylene and polypropylene, wherein the powder hair dye composition contains sodium percarbonate with an active oxygen amount within a range of 12.0 to 15.3 % by mass as a component (A), and additionally contains the sulfate salt of an oxidation dye as a component (C), and wherein the content of the component (C) in the powder hair dye composition is within a range of 0.25 to 40 % by mass."

VIII. In its letter of 26 August 2019 the respondent also stated that it maintained the request submitted during the proceedings before the opposition division that the opponents provide proper and complete translations of the cited documents in the language of the proceedings.

IX. Oral proceedings were held on 26 September 2019. They were not attended by the respondent and opponent-2, who had informed the Board accordingly.

X. The appellant's arguments can be summarised as follows:

(a) Experimental data submitted by the respondent on 10 July 2017

The opposition division did not correctly exercise its discretion in admitting the experimental data filed by the patent proprietor shortly before the date of the oral proceedings because the opponents were left too little time to carry out counter-experiments.

(b) Main request and auxiliary requests 1 and 2: inventive step

Document D14a was the closest prior art for the assessment of inventive step. The composition disclosed in this document contained pure sodium percarbonate. The indication in claim 1 of the patent that the active oxygen amount of the sodium percarbonate was between 12.0 to 15.3% by mass simply meant that the sodium percarbonate was highly pure. Indeed, the value 15.3% corresponded to the maximum theoretical amount of active oxygen. Accordingly, this feature did not distinguish the subject-matter of claim 1 over the disclosure of D14a. Hence, the main request differed from the disclosure of D14a only on account of the

material of the container wall, namely polyethylene or polypropylene. The technical problem was the provision of a container for a powder hair dye composition comprising a sulfate salt of an oxidation dye and an oxidising agent, the container allowing the oxygen to permeate through the container walls. In document D11a the same problem was solved by the use of a container having an oxygen-permeable layer preferably made of polyethylene or polypropylene. Hence, claim 1 was not inventive in view of the combination of D14a with D11a.

Auxiliary requests 1 and 2 were not inventive substantially for the same reasons presented in respect of the main request.

(c) Admittance of auxiliary request 3

This request was filed after oral proceedings had been scheduled. Claim 1 of this request had no basis in the original application and was unclear. For these reasons auxiliary request 3 should not be admitted to the appeal proceedings.

XI. The respondent's arguments, submitted in writing, can be summarised as follows:

(a) Main requests and auxiliary requests 1 and 2: inventive step

Example 3 of document D14 was the closest prior art for the assessment of inventive step. The subject-matter of claim 1 of the main request differed from this example on account of the use of polyethylene or polypropylene as the material for the storage container and the indication that the sodium percarbonate had an active oxygen amount in the range of 12.0 to 15.3%. The

inventors had found that it was not possible to obtain sufficient dyeability when the active oxygen amount was below 12%. The material selected for the storage container resulted in improved dyeability and storage stability. Furthermore, the material was oxygen permeable. This reduced the risk of an excessive pressure increase inside the container due to the oxygen generated by the percarbonate. An additional advantage of the composition of claim 1 was linked to the use of a sulfate salt of the oxidation dye. This measure resulted in the suppression of the dye sublimation. The interrelation of these advantages was to be regarded as a synergistic effect. Contrary to the appellant's submission document D11 was not relevant since it did not relate to hair dye compositions. Moreover, the walls of the container described in this document were not oxygen permeable. Thus, the subject-matter of claim 1 was inventive over the combination of D11 and D14. Claim 1 of auxiliary requests 1 and 2 fulfilled the requirements of Article 56 EPC substantially for the same reasons presented in respect of the main request.

(b) Admittance of auxiliary request 3

Auxiliary request 3 was filed as a direct response to the preliminary opinion of the Board. The amendments introduced in this request had a basis in the original application. This request was therefore admissible.

XII. Opponent-2 did not argue on the merits of the case in the appeal proceedings.

XIII. The appellant requested that the decision under appeal be set aside and that the patent be revoked. It further requested not to admit into the appeal proceedings

auxiliary request 3 and the experimental evidence filed by the respondent during the first instance proceedings on 10 July 2017.

XIV. The respondent requested that the appeal be dismissed (i.e. that the patent be maintained as granted) or, alternatively, that the patent be maintained on the basis of one of auxiliary requests 1 to 3 wherein auxiliary requests 1 and 2 were filed on 5 June 2018 with the reply to the appeal and auxiliary request 3 was filed on 26 August 2019. It further requested that the opponents provide proper and complete translations of the cited documents in the language of the proceedings.

Reasons for the Decision

1. Admittance of the experimental data filed by the respondent during the first instance proceedings

1.1 The experiments filed by the respondent on 10 July 2017 were admitted by the opposition division and therefore form part of the basis of the appeal proceedings.

1.1.1 In paragraph II.c of its decision, the opposition division explains that the experimental data relate to the issue of sublimation of the sulfate salts. This issue is further discussed in the assessment of inventive step (point IV.f.i of the decision). It appears therefore that the opposition division considered the *prima facie* relevance of the experiments, albeit in an implicit manner. Hence, in the Board's view there is no indication that the opposition division exercised its discretion pursuant

to Article 114(2) EPC on the basis of incorrect criteria or in an unreasonable way.

1.2 Accordingly, the Board sees no reason to exclude the experimental data of 10 July 2017 from the proceedings.

2. Translations of prior art documents in the language of the proceedings

2.1 The respondent requests that the opponents provide translations of the cited documents in the language of the proceedings.

2.2 Among the prior art documents cited by the opponents in a language other than English, only documents D11 and D14 are relevant in the context of the present decision.

The Board notes that the appellant submitted a complete human translation in English of document D11 on 11 July 2017 (document D11a). A human English translation of D14 was filed by the respondent itself on 10 July 2017 (document D14a). Thus, all the relevant prior art documents are available in the language of the proceedings.

Main request (patent as granted)

3. Inventive step

3.1 Closest prior art

3.1.1 The Board agrees with the opposition division and with the parties that document D14a is the closest prior art. Example 3 of D14a describes a powder hair dye composition containing *inter alia* sodium percarbonate

and a mixture of sulfate salts of oxidation dyes. This example does not provide any information with regard to the composition of the container's walls and the amount of active oxygen of the sodium percarbonate. Hence, the packaged powder of claim 1 differs from the disclosure of D14a in that the container comprises a material selected from polyethylene and polypropylene and in that the active oxygen amount of the sodium percarbonate is 12.0 to 15.3% by mass.

3.2 Technical problem

3.2.1 The definition of the technical problem is to be based on the technical effects provided by the distinguishing features over the closest prior art.

3.2.2 The respondent explains that the use of polyethylene or polypropylene has the effect of permitting the oxygen produced by the sodium percarbonate to permeate through the walls of the container. This prevents an undesired increase of oxygen inside the container which could result in the expansion or explosion of the container and in the degradation of the dyeing agent.

3.2.3 In this regard the Board notes that according to claim 1 of the patent, the container wall is made "*of a single-layer structure or a multi-layer structure comprising a material selected from polyethylene and polypropylene* ...". This wording does not exclude the presence of other materials in addition to polyethylene and polypropylene. Furthermore, multi-layer walls in which only one of the layers is made of polyethylene and polypropylene and the others are made of gas-barrier materials are also covered by claim 1 (see also points 3.3.1 and 3.3.2 below).

It follows that the effect of allowing the oxygen generated by the sodium percarbonate to leave the container is not achieved over the whole scope of the claim.

3.2.4 The respondent has submitted several considerations in relation to the effects of the presence of an oxidation dye in the form of a sulfate salt. These relate *inter alia* to the experiments submitted on 10 July 2017. However, as discussed in point 3.1.1 above, the powder of example 3 of D14a also contains sulfate salts of oxidation dyes. Hence, these considerations are of no relevance for the definition of the technical problem.

3.2.5 With regard to the active oxygen amount of the sodium percarbonate the respondent argues that the range 12.0 to 15.3% is crucial to achieve high dyeability. In this respect it is noted that there is no evidence on file showing an improvement in dyeability over the composition of D14a. However, the Board accepts the respondent's position that the hair dye composition of claim 1 provides high dyeability.

3.2.6 The respondent further maintains that the technical measures of selecting a specific range for the active oxygen amount, using polyethylene or polypropylene as materials for the container walls and using an oxidation dye in the form of a sulfate salt, provide a synergistic interaction.

In this regard the Board notes that the concept of synergism is normally used to indicate an interaction of two or more technical measures that produces an effect which is greater than the sum of the separate effects provided by each of these measures. In the

present case there is no experimental evidence of such a synergistic interaction.

3.2.7 On the basis of the above considerations the Board concludes that the technical problem with respect to document D14a is to provide a packaged hair dye composition containing sodium percarbonate and the sulfate salt of an oxidation dye, where the composition provides high dyeability.

3.3 Obviousness

3.3.1 Document D11a discloses containers which are suitable for preserving substances containing a peroxide capable of generating oxygen by decomposition. Percarbonates are mentioned in paragraph [0020] as an example of substances containing peroxides. These containers can be used for instance as packaging for hair dyes ([0021]).

The walls of the containers are made of three layers, namely an oxygen-permeation layer, an oxygen-absorbent layer and a gas-barrier layer (see abstract and [0009] to [0011]). The oxygen-permeation layer, which is the innermost layer, is preferably made of polyethylene or polypropylene.

3.3.2 Thus, the walls of the container disclosed in D11a have a multi-layer structure and preferably comprise polyethylene or polypropylene. They are therefore covered by the definition of a container wall provided in claim 1 of the patent in suit, namely "a single-layer structure or a multi-layer structure comprising a material selected from polyethylene and polypropylene".

Since the containers of D11a are suitable for packaging hair dye compositions comprising a percarbonate, in the Board's view the skilled person would use these containers to store the composition of example 3 of D14a.

Accordingly, the use of containers with walls having a single- or multi-layer structure comprising a material selected from polyethylene and polypropylene, does not provide any inventive contribution to the subject-matter of claim 1.

3.3.3 With regard to the second distinguishing feature of claim 1 over D14a, namely the active oxygen amount of the sodium percarbonate, the following is observed. As explained in paragraph [0030] of the patent, sodium percarbonate (Na_2CO_3 x $3/2(H_2O_2)$) generates oxygen when mixed with water according to the following reaction:

$$Na_2CO_3 \times 3/2(H_2O_2) \rightarrow Na_2CO_3 + 3/2(H_2O) + 3/4(O_2)$$

Thus, one molecule of sodium percarbonate generates 0.75 molecules of oxygen. Considering the molecular weights of the sodium percarbonate and of the oxygen, the appellant's conclusion that 15.3% is the maximum theoretical amount of active oxygen is correct. Indeed, this conclusion has never been contested by the respondent.

Hence, the requirement of claim 1 that sodium percarbonate has an active oxygen amount in the range of 12.0 to 15.3% by mass merely indicates that the "quality" of the sodium percarbonate is such that it provides a high amount of oxygen, up to the maximum theoretical amount.

3.3.4 In the Board's view, the skilled person would obviously consider using a sodium percarbonate of high quality in terms of the amount of generated oxygen. Furthermore, the skilled person would not be surprised to observe that a sodium percarbonate having a high active oxygen content is more effective as an oxidation dye than a sodium percarbonate having a lower active oxygen content and therefore makes it possible to achieve a high degree of dyeability.

3.3.5 The respondent's observation that the prior art does not indicate that 12% of active oxygen content is a minimum threshold for obtaining a sufficient dyeability is an argument that may be relevant in assessing the inventive step of the lower end point of the range 12 to 15.3%. However, it does not explain why the upper part of this range is also inventive. As explained above, using a sodium percarbonate which can provide a high amount of oxygen is a choice that does not involve any inventive merit.

3.4 Hence, an inventive step cannot be based upon the feature that the sodium percarbonate has an active oxygen amount within the range of 12.0 to 15.3% by mass. Therefore, the Board concludes that claim 1 of the patent does not comply with Article 56 EPC.

Auxiliary request 1

4. Claim 1 of auxiliary request 1 specifies that the content of the oxidation dye is within the range of 0.25 to 40% by mass.

4.1 The amount of oxidation dye in the composition of example 3 of D14a is within this range. Hence, the considerations set out above with regard to the main

request also apply to the subject-matter of claim 1 of auxiliary request 1. Thus, auxiliary request 1 does not fulfil the requirements of Article 56 EPC.

Auxiliary request 2

5. Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 by specifying that the thickness of the container wall of the storage container is within a range of 0.5 to 2.0 mm.

5.1 In paragraph [0052] of the patent it is explained that this thickness of the storage wall is expected to allow the oxygen to permeate outside the container while preventing water permeating from the outside into the container.

However, this is a mere speculative consideration that does not take into account that claim 1 of auxiliary request 2 also covers containers in which the walls have a multi-layer structure in which one of the layers may not be permeable to oxygen. Thus, for the subject-matter of this claim too, the effect of allowing the oxygen generated by the sodium percarbonate to leave the container is not achieved over the whole scope of the claim.

5.2 The oxygen-absorbent layer of the containers of D11a has a thickness of 20 to 180 micrometres (0.02 to 0.18 mm; see [0011]). However, D11a does not provide any restriction as regards the thickness of the two other layers of the container and therefore also as regards the total thickness of the walls of the container.

Since the selection of the range 0.5 to 2.0 mm does not result in any unexpected technical effect, it does not

render the subject-matter of claim 1 inventive. Accordingly, claim 1 of auxiliary request 2 does not meet the requirements of Article 56 EPC.

Auxiliary request 3

6. Admittance

6.1 The respondent filed auxiliary request 3 on 26 August 2019, i.e. after the filing of the reply to the appeal.

As set out in Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion, such discretion being exercised *inter alia* in view of the need for procedural economy. According to established case law of the Boards of Appeal, the criterion of procedural economy is not met when an amended request is not *prima facie* allowable (Case Law of the Board of Appeal, 9th edition, 2019, V.A.4.4.2 a)).

6.2 In its submissions accompanying the filing of auxiliary request 3, in relation to the requirement of Article 123(2) EPC the respondent explains that the feature "storage container of paper box" is disclosed in paragraph [0026] of the patent specification (paragraph bridging pages 6 and 7 of the original application) whereas the indication that the oxidation dye is present in an amount of 0.25 to 40% by mass is disclosed in claim 9 as filed.

6.2.1 This explanation however does not provide a basis for combining in claim 1 the features "storage container of paper box" and "wherein the content of the component

(C)...is within a range of 0.25 to 40 % by mass" while at the same time limiting the container wall to a "single-layer structure".

Moreover, the relevant sentence of the passage of the original description bridging pages 6 and 7 indicates that "*[i]t is a still additional object of the invention to prevent a paper box placing therein the storage package or an instruction manual from staining, due to the sublimation of an oxidation dye*". Thus, this passage appears to indicate that the storage package (containing the dye composition) is contained in a second container, namely the paper box. Claim 1 refers instead to a (single) "storage container of paper box".

Thus, the passage of the original description invoked by the respondent does not provide a valid basis for introducing the feature "storage container of paper box" in claim 1.

6.3 The isolation of the term "paper box" from the original description and its introduction in the context of claim 1 also results in an unclear definition of the composition of the storage container: although this is defined as a "paper box", it is also stated that it has a single layer comprising polyethylene or polypropylene.

6.4 Hence, in view of these issues pursuant to Article 123(2) and 84 EPC, auxiliary request 3 is not *prima facie* allowable.

Accordingly, the Board exercises its discretion under Article 13(1) RPBA not to admit this request.

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:

G. Rauh C. Schmidt

Decision electronically authenticated