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**Datasheet for the decision
of 28 September 2018**

Case Number: T 2314/14 - 3.3.10
Application Number: 05009413.5
Publication Number: 1721598
IPC: A61K8/14, A61Q5/08, A61Q5/10,
A61Q5/06
Language of the proceedings: EN

Title of invention:

Micelle thickening systems for hair colourant and bleaching compositions

Patent Proprietor:

THE PROCTER & GAMBLE COMPANY

Opponents:

Henkel AG & Co. KGaA
L'Oréal

Headword:

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (no) - all requests

Decisions cited:

Catchword:



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 2314/14 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 28 September 2018

Appellant: Henkel AG & Co. KGaA
(Opponent 1) Henkelstrasse 67
40589 Düsseldorf (DE)

Correspondence address: Henkel AG & Co. KGaA
CLI Patents
Z01
40191 Düsseldorf (DE)

Appellant: L'Oréal
(Opponent 2) 14, rue Royale
75008 Paris (FR)

Respondent: THE PROCTER & GAMBLE COMPANY
(Patent Proprietor) One Procter & Gamble Plaza
Cincinnati, OH 45202 (US)

Representative: Herzog, Fiesser & Partner Patentanwälte PartG
mbH
Isartorplatz 1
80331 München (DE)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
28 October 2014 concerning the maintenance of
European patent No. 1721598 in amended form.**

Composition of the Board:

Chairman P. Gryczka
Members: R. Pérez Carlón
 F. Blumer

Summary of Facts and Submissions

- I. The appeal lies from the decision of the opposition division which resulted in the maintenance of European patent No. 1 721 598 in the form of the third auxiliary request then pending.
- II. Two notices of opposition had been filed on the grounds of insufficiency of disclosure (Article 100(b) EPC), and lack of novelty and inventive step (Article 100(a) EPC).
- III. The documents filed during the opposition proceedings include the following:
- D12: US 2004/0237218 A1
D18: Yang, J. "Viscoelastic wormlike micelles and their applications" Current Opinion in Colloid & Interface Science 7 (2002) 276-281
- IV. The opposition division concluded, inter alia, that document D12 was the closest prior art, and the problem underlying the claimed invention was how to provide an alternative hair colourant and/or bleaching composition. The claimed solution, which was a composition characterised by the fact that it contained a worm-like micelle thickening system including cocoamidopropylbetaine and/or sodium lauryl amphoacetate, was not obvious with regard to the prior art. For these reasons, the claimed compositions were inventive.
- V. The main request in these appeal proceedings was the third auxiliary request before the opposition division. Claim 1 reads as follows:

"A hair colouring and or bleaching composition comprising

i) at least one oxidizing agent and

ii) at least one worm-like micelle thickening system comprising

a) from 0.1 to 40.0 % of at least one ionic surfactant and at least one amphoteric surfactant and

b) at least one electrolyte source of counter-ions for said ionic surfactant having a concentration of at least 0.25 mole/kg, wherein the total concentration C of said counter-ions is defined according to the formula: $C = \sum M \cdot 10^{(z-1)}$

wherein M is equal to the molar concentration of each counter ion and z is equal to the charge on each corresponding counter ion,

wherein said electrolyte as a source of counter ions for said ionic surfactant is selected from a source of carbonate ions, a source of ammonium ions, a source of radical scavenger and mixtures thereof,

wherein said ionic surfactant is selected from N-acyl sarcosinates, alkyl sulphates, alkyl phosphates, alkyl ether sulphates, alkyl ether phosphates and mixtures thereof and said amphoteric or zwitterionic surfactant is selected from cocoamidopropylbetaine, sodium lauryl amphotoacetate and mixtures thereof."

Claim 1 of the first auxiliary request requires:

"a) from 2 to 10 % of at least one ionic surfactant and at least one amphoteric surfactant"

Claim 1 of the second auxiliary request contains all

the features of claim 1 of the first auxiliary request with exception of "*alkyl phosphates*" and "*alkyl ether phosphates*" among the selection of ionic surfactants.

Lastly, claim 1 of the third auxiliary request has all the features of claim 1 of the second auxiliary request, adding that the oxidizing agent of feature i) is "*a water-soluble peroxygen oxidizing agent*".

VI. The arguments of appellant 1 (opponent 1) where relevant for the present decision were as follows:

Document D12 was the closest prior art. Example 6 of D12 disclosed all the features of claim 1 of the main request with the exception of the required presence of a worm-like micelle thickening system containing amphoteric surfactants selected from cocoamidopropylbetaine, sodium lauryl amphotacetate and mixtures thereof. The problem underlying the claimed invention was how to provide alternative hair colouring and/or bleaching compositions and the solution, characterised by the thickening system, was obvious with regard to D18.

The argument applied in the same manner to the composition of claim 1 of all the auxiliary requests, which lacked inventive step for the same reasons as the main request.

VII. The arguments of appellant 2 (opponent 2) did not differ in essence from those of appellant 1, where relevant for the present decision.

VIII. The respondent (patent proprietor) also considered D12 as the closest prior art, and agreed with the appellants and the opposition division regarding the

problem underlying the claimed invention and the claimed solution. However, according to the respondent, the skilled person found no motivation to use worm-like micelle thickening systems in hair colouring and/or bleaching compositions. For this reason, the claimed compositions were inventive.

The argument applied in the same manner to the compositions of claim 1 of all the auxiliary requests.

- IX. Appellant 2 informed the board that it would not be attending the oral proceedings, which took place on 28 September 2018.
- X. The final requests of the parties were as follows:
- Appellants 1 and 2 requested that the decision under appeal be set aside and the patent be revoked.
 - The respondent requested that the appeals be dismissed, or subsidiarily, that the patent be maintained in the form of one of the first to third auxiliary requests, filed with a letter dated 28 August 2018.
- XI. At the end of the oral proceedings, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.

Inventive step

2. Claim 1 of the main request is directed to a hair colouring and/or bleaching composition comprising an oxidising agent and at least one worm-like micelle thickening system.

Said thickening system requires the presence of ionic and amphoteric surfactants and at least one electrolyte source, in defined amounts.

The ionic surfactants of the worm-like micelle thickening system required by claim 1 are selected from N-acyl sarcosinates, alkyl sulphates, alkyl phosphates, alkyl ether sulphates, alkyl ether phosphates and mixtures thereof.

The amphoteric surfactants of said thickening system are selected from cocoamidopropylbetaine, sodium lauryl amphoacetate and mixtures thereof.

3. Closest prior art

- 3.1 The parties present at the oral proceedings agreed with the opposition division that document D12 was the closest prior art.

Appellant 2 argued that document D13 could also represent a suitable starting point for the examination of inventive step.

Document D12 relates to hair colouring compositions having improved lift and lightening, reduced damage, particularly brittle fibre formation, and improved colour delivery, uptake and durability [0013].

In contrast, document D13 relates to cleansing gel compositions such as hair shampoos [0058], but not to hair colouring.

For this reason alone, the board considers that document D12 comes closer to the claimed invention.

3.2 It has not been disputed that example 6 of document D12 discloses compositions which differ from those of claim 1 in that they contain neither cocoamidopropylbetaine nor sodium lauryl amphoacetate and they lack a worm-like micelle thickening system.

4. Technical problem underlying the invention

It was not disputed at the oral proceedings before the board that the technical problem underlying the claimed invention was how to provide an alternative hair colouring and/or bleaching composition.

5. Solution

The claimed solution to this technical problem is the hair colouring and/or bleaching composition of claim 1, characterised by a worm-like micelle thickening system comprising cocoamidopropylbetaine, sodium lauryl amphoacetate or mixtures thereof.

6. Success

The claimed composition credibly solves the problem of providing an alternative. This was not in dispute.

7. It thus remains to be decided whether or not the proposed solution to the objective problem defined

above is obvious from the prior art.

- 7.1 Document D12 discloses that hair colouring or bleaching compositions require thickeners in an amount sufficient to provide a viscosity of 1 Pa.s to 40 Pa.s at 26°C [0081]. Paragraphs [0082] to [0090] of D12 discloses eight different types of thickeners suitable for these kind of compositions. Document D12 does not disclose, however, any particular advantage associated with any of these thickener systems.

Document D12 further discloses (C₈-C₂₀)alkylamido(C₁-C₆)alkylbetaines as a suitable component of hair colouring and/or bleaching compositions, in the context of thickeners [0185].

- 7.2 The skilled person, in trying to obtain a hair colouring and or bleaching composition alternative to that of D12, would consider modifications which do not impair its essential properties.

- 7.3 Worm-like micelles are well-known thickening systems and are applied in a variety of technical fields, including personal care products such as shampoo and body wash (D18, paragraph 6).

Cocoamidopropylbetaine is a surfactant widely used in worm-like micelle thickening systems for personal care, as it is mild to skin (D18, paragraph 6).

Document D18 thus teaches that worm-like micelles are good, versatile thickening systems, which can be formed with cocoamidopropylbetaine, which is compatible with cosmetic use and is a member of a class explicitly mentioned in D12 as a suitable component [0185]. The skilled person, seeking an alternative, would use this

thickening system in the context of the compositions of D12 and thus arrive at the claimed invention without using inventive skills.

For these reasons, the compositions of claim 1 of the main request are not inventive within the meaning of Article 56 EPC.

- 7.4 The respondent argued that document D18 only related to washing products (page 279, second line) and focused on properties such as foaming and detergency which were undesirable for hair colouring and/or bleaching compositions (page 277, right-hand column, third full paragraph, line 5). For this reason, the skilled person would not have any motivation to use the thickening systems of document D18 in the context of hair dye compositions.

However, document D18 discloses worm-like micelle thickening systems to be suitable for applications unrelated to any foaming or detergent ability (see for example heating and cooling fluid, paragraph 4 of D18). Thus, the skilled person would not consider worm-like micelle thickening systems to be only suitable for washing products.

For this reason, the respondent's argument is unconvincing.

8. Claim 1 of the first auxiliary request requires a relative amount of surfactant (2 to 10%) which is anticipated by paragraph [0181] of document D12.

The compositions of claim 1 of the second and third auxiliary request do not contain any additional distinguishing feature with respect to the closest

prior-art document D12 over and above those of claim 1 of the first auxiliary request.

The respondent acknowledged that the arguments with respect to inventive step regarding the composition of claim 1 of the main request would also apply, *mutatis mutandis*, to the compositions of claim 1 of all the auxiliary requests.

The board thus concludes that the compositions of claim 1 of the auxiliary requests are not inventive within the meaning of Article 56 EPC for the reasons explained above with respect to the main request. None of the requests on file are thus allowable.

9. Considering the conclusion of the board on the issue of inventive step, it is not necessary to decide on any other point.

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. Rodríguez Rodríguez

P. Gryczka

Decision electronically authenticated