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**Datasheet for the decision
of 15 June 2018**

Case Number: T 1520/16 - 3.3.07

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Language of the proceedings: EN

Title of invention:
Aqueous cleansing composition

Applicant:
Kao Germany GmbH

Headword:
Cleansing composition / KAO

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:
Novelty - main request (no)
Inventive step - auxiliary request 1 and 2 (no)



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Case Number: T 1520/16 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 15 June 2018

Appellant: Kao Germany GmbH
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64297 Darmstadt (DE)

Representative: Grit, Mustafa
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 30 November
2015 refusing European patent application
No. 10715717.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman A. Uselli
Members: S. Albrecht
P. Schmitz

Summary of Facts and Submissions

- I. The appeal of the applicant (appellant) lies from the decision of the examining division to refuse European patent application No. 10715717.4, published as WO 2010/124818.
- II. The decision of the examining division was based on a main request and five auxiliary requests filed by telefax on 18 September 2015.

The following documents were among those cited in the first instance examination proceedings:

D1: CN 1303661 & Derwent WPI Abstract of D1 in English language

D3: EP 0 826 766

D4: US 2008/0095732

Experimental data filed by the appellant by telefax of 18 September 2015 (referred to herein as "D7").

- III. In its decision the examining division came to the conclusion that the subject-matter of claim 1 of the main, the first and the second auxiliary request did not comply with the requirements of Article 123(2) EPC, whereas the subject-matter of claim 1 of the third auxiliary request lacked novelty vis-à-vis D1.

The examining division further concluded that claim 1 of the fourth auxiliary request did not fulfil the requirements of Article 56 EPC. The subject-matter of this request related to an aqueous cleansing composition for keratin fibres comprising *inter alia* at least one dipeptide selected from Dipeptide-1, Dipeptide-2, Dipeptide-3, Dipeptide-4, Dipeptide-5, Dipeptide-6, Dipeptide-7, Dipeptide-8, and carnosine at

a concentration in the range of 0.01 to 5% by weight calculated to total composition. The examining division identified D3, and in particular the formulation disclosed in table 13 thereof, as the closest prior art, from which the claimed subject-matter differed in the nature of the dipeptide. With regard to the definition of the objective technical problem, the examining division observed that the comparative test results submitted by the appellant on 18 September 2015 (D7) did not reflect the comparison with the closest prior art. Accordingly, the objective technical problem was the provision of an alternative conditioning shampoo containing dipeptides. The solution proposed by claim 1 was obvious in the light of the teaching of D4 taken in combination with the closest prior art.

With regard to claim 1 of the fifth auxiliary request, the examining division considered that its subject-matter was obvious for the same reasons as given for claim 1 of auxiliary request 4.

- IV. With the statement setting out the grounds of appeal, the appellant requested that the decision under appeal be set aside and a patent be granted on the basis of a main request or on the basis of one of auxiliary requests 1 to 2.

Claim 1 of the main request reads as follows:

"1. An aqueous cleansing composition for keratin fibres especially for human hair comprising at least one anionic surfactant, at least one non-ionic surfactant and at least one amphoteric surfactant characterised in that it comprises at least one dipeptide, containing two different amino acid moieties when one of the amino acid moieties is glycine, at a concentration in the

range of 0.01 to 5% by weight calculated to total composition".

Claim 1 of the first auxiliary request reads as follows:

"1. An aqueous cleansing composition for keratin fibres especially for human hair comprising at least one anionic surfactant, at least one non-ionic surfactant and at least one amphoteric surfactant characterised in that it comprises at least one dipeptide selected from Dipeptide-1, Dipeptide-2, Dipeptide-3, Dipeptide-4, Dipeptide-5, Dipeptide-6, Dipeptide-7, Dipeptide-8, and carnosine at a concentration in the range of 0.01 to 5% by weight calculated to total composition".

Claim 1 of the second auxiliary request differs from claim 1 of the first auxiliary request in that the dipeptide has been restricted to carnosine.

Auxiliary requests 1 and 2 correspond to auxiliary requests 4 and 5 of the decision under appeal.

- V. In a communication pursuant to Article 15(1) RPBA issued on 23 May 2018, the Board expressed its preliminary opinion that claim 1 of the main request did not appear to be novel vis-à-vis Formulation Example 1 of D3.

As for claim 1 of the first auxiliary request, the Board considered that its subject-matter differed from the closest prior art D3 in the nature of the dipeptide. The Board observed that neither the experimental data disclosed in the application underlying the present appeal nor the data contained in

D7 convincingly showed the presence of improvements having their origin in the distinguishing feature. The objective technical problem was therefore to be defined as the provision of further aqueous hair-cleansing compositions. The solution provided in the application, i.e. an aqueous cleansing composition in accordance with claim 1, was rendered obvious in the light of the teaching of D4.

The Board furthermore indicated that the same observations applied to the subject-matter of the second auxiliary request.

VI. Oral proceedings were held on 15 June 2018. They were not attended by the appellant as announced in its telefax of 11 June 2018.

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

The glutamylglutamate alkyl derivatives disclosed in the closest prior art D3 were not dipeptides within the meaning of the present application, i.e. molecules having two amino acid moieties. If they were, then the same would apply for any dipeptide derivative including proteins which were definitely not comprised in the claimed scope.

The subject-matter of the main request differed from the cleansing compositions of D3 in the additional presence of a dipeptide. This difference gave rise to an unexpected effect, as demonstrated in the comparative test report D7. Whilst it was correct that the comparative compositions tested in this report comprised peptide derivatives which differed from those disclosed in D3, these compositions nevertheless represented the teaching of D3 and hence were to be

taken into account for the assessment of inventive step. Accordingly, the objective technical problem was the provision of a cleansing composition with an improved conditioning effect on hair. The solution, i.e. a composition in accordance with claim 1 of the main request, was not rendered obvious in the light of the prior-art documents on file. In particular, the skilled person would not have consulted D4, since it neither proposed any means to solve any hair-related problems, nor did it disclose any hair-cleansing compositions. Moreover, the peptide derivatives mentioned in D4 were not dipeptides within the meaning of the present application, and they were used in the examples in a concentration which was far below the claimed concentration ranges.

For the same reasons, auxiliary requests 1 and 2 also fulfilled the requirements of Article 56 EPC.

VIII. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the main request or alternatively on the basis of one of auxiliary requests 1 or 2, all submitted with the statement setting out the grounds of appeal on 11 April 2016.

Reasons for the Decision

Main request

1. Article 54 EPC
- 1.1 Formulation Example 1 disclosed on page 12, line 49, to page 13, line 18, of D3 describes an aqueous cleansing composition in the form of a hair shampoo

comprising *inter alia*:

(a) triethanolamine lauryl sulfonate and triethanolamine N-lauroyl glutamate (i.e. anionic surfactants: see page 4, lines 27 to 28, of D3 and page 3, third full paragraph of the present application),

(b) coconut oil fatty acid dimethylamino acetic acid betaine (i.e. an amphoteric surfactant: see page 5, fourth and fifth full paragraphs of the present application), and

(c) coconut oil fatty acid diethanolamide (i.e. a non-ionic surfactant: see page 4, lines 33 to 35, of D3).

The composition further comprises triethanolamine N-(N'-lauroyl- α -glutamyl)glutamate and triethanolamine N-(N'-lauroyl- γ -glutamyl)glutamate in a concentration of 0.5% by weight, each calculated to the total composition. Each of these two compounds comprises two amino acid moieties, namely glutamyl and glutamate.

- 1.2 In the decision under appeal the examining division considered that these two compounds fell under the definition of the term "dipeptide" provided by the applicant on page 1, last line of the application under appeal.
- 1.3 In the statement setting out the grounds of appeal the appellant contested this finding, and argued that derivatives of dipeptides such as those included in the composition of Formulation Example 1 of D3 were not encompassed by the term "dipeptide". If they were included, then the same would apply to any dipeptide derivative including any protein. Such an

interpretation would be at odds with the common understanding of the term "dipeptide".

1.4 In the Board's view the skilled person would interpret the term "moiety" as a part of a molecule that may include either whole functional groups or parts of functional groups as substructures. Accordingly, the term "dipeptide" defined on page 1, last line of the present application, as "compounds with two amino acid moieties" thus stands for compounds consisting of exactly two amino acid groups, wherein these two groups may be derivatized with further substituents other than amino acids, since the term dipeptide implies that only two amino acid moieties may be present. Accordingly, the Board agrees with the examining division that the formulation disclosed in Formulation Example 1 of D3 does indeed contain two dipeptides.

1.5 Hence, claim 1 is not novel over the disclosure of D3.

Auxiliary request 1

2. Article 54 EPC

The examining division considered that none of the prior-art documents D1-D6 disclosed the claimed compositions (see point 5.3 of the decision). The Board agrees with this finding.

3. Article 56 EPC

3.1 Closest prior art

3.1.1 The examining division and the appellant both identified D3 as the closest prior art, in particular Formulation Example 1 thereof. The Board comes to the

same conclusion. This example pertains to an aqueous cleansing composition in the form of a hair shampoo comprising *inter alia* an anionic surfactant, a non-ionic surfactant, and an amphoteric surfactant (see point 1.1 above).

3.1.2 Claim 1 differs from the formulation described in this example in that the dipeptide is selected from Dipeptide-1, Dipeptide-2, Dipeptide-3, Dipeptide-4, Dipeptide-5, Dipeptide-6, Dipeptide-7, Dipeptide-8, and carnosine.

3.2 Technical problem and solution

3.2.1 The experimental data disclosed in the examples of the present application indicates that the presence of carnosine in the claimed compositions improves combability, shine, grip, softness, elasticity, volume and natural touch of the hair. This data does not, however, allow any comparison with the composition of Formulation Example 1 of D3.

3.2.2 During the examination proceedings the appellant submitted further experimental data in the form of a comparative test report (D7). The comparative composition used in this report is identical to the composition of example 1 of the present application except for the fact that carnosine has been replaced by Gluadin WQ, which is laurdimonium hydroxypropyl hydrolyzed wheat protein. The data of D7 demonstrates that the presence of carnosine in the composition according to the invention provides for an improved combability, grip, soft feeling, elasticity, body and shine of the hair compared with the comparative composition.

- 3.2.3 In the decision under appeal the examining division found that the comparative test results submitted by the applicant did not reflect the comparison with the closest prior art, because Gluadin WQ was neither disclosed in the Formulation Example 1 of D3 nor was it mentioned in the general part thereof. Moreover, Gluadin WQ was structurally very different from the dipeptides disclosed in D3. As a result of this, the examining division did not take the test results into account for defining the objective technical problem with regard to D3.
- 3.2.4 In the statement setting out the grounds of appeal the appellant argued that the dipeptides disclosed in Formulation Example 1 of D3 were neither commercially available nor did the appellant have the facilities to synthesise them. Gluadin WQ was selected instead because of the molecules that the appellant had at his disposal this molecule was structurally the closest to the dipeptides disclosed in D3. In addition, the presence of a quaternary ammonium group in Gluadin WQ did not render the comparative tests invalid since quaternary ammonium compounds were known to condition hair as well.
- 3.2.5 The Board observes that the compound Gluadin WQ used in the comparative tests as representative for the dipeptides disclosed in D3 does not form part of the disclosure of D3. Furthermore, it is structurally remote from the dipeptides described in D3, in that it contains a mixture of polypeptides, oligopeptides and peptides of different lengths. Accordingly, the comparative composition used in the comparative tests does not reflect the teaching of D3.

The appellant's argument regarding the lack of

commercial availability of the two dipeptides disclosed in Formulation Example 1 of D3 is not convincing. The fact that the appellant does not have at his disposal the means to manufacture them does not constitute in the Board's view a sufficient reason for selecting another, structurally more remote compound based on the availability of this compound in the appellant's company. The appellant could have chosen another dipeptide which is structurally closer to the one disclosed in D3, in order to make the improvement plausible.

In view of the foregoing, the Board concludes that the test results provided by the appellant are not suitable to convincingly show that the observed improvements have their origin in the distinguishing feature of the invention compared with the closest prior art. Hence, the objective technical problem with regard to D3 is to be defined as the provision of further aqueous hair-cleansing compositions.

The solution provided by the appellant is an aqueous cleansing composition in accordance with claim 1.

3.3 Obviousness

In the Board's view the skilled person faced with the technical problem as defined above would turn to D4, given the fact that this document belongs to the technical field of cosmetics and pertains to personal-care compositions useful for regulating the cosmetic appearance of mammalian keratinous tissue including hair (see paragraph 0002).

These compositions can *inter alia* be used for hair cleansing and for improving the feel of hair, shine, gloss, smoothness (see paragraph 0078).

They comprise a first dipeptide-based molecule, a pentapeptide, a second dipeptide other than the first dipeptide-based molecule, a vitamin B3 compound, and a dermatologically acceptable carrier (see claim 1). The second dipeptide is present in the composition in a concentration from about $1 \times 10^{-5}\%$ to about 5% by weight (see paragraph 0049) and is preferably carnosine (see paragraph 0050; claims 3, 12).

In the light of this teaching, the skilled person faced with the technical problem defined above, would consider obvious to include carnosine in the aqueous cleansing composition disclosed in Formulation Example 1 of D3 in the required concentrations.

The Board therefore concludes that the subject-matter of claim 1 does not fulfil the requirements of Article 56 EPC.

Auxiliary request 2

4. This request differs from auxiliary request 1 solely in that the dipeptide has been restricted to carnosine. Accordingly, the subject-matter of claim 1 of this request does not fulfil the requirements of Article 56 EPC for the same reasons as set out for claim 1 of auxiliary request 1.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



S. Fabiani

A. Usuelli

Decision electronically authenticated