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**Datasheet for the decision  
of 7 April 2016**

**Case Number:** T 0481/14 - 3.3.07

**Application Number:** 03027985.5

**Publication Number:** 1537847

**IPC:** A61K8/98, A61Q5/12

**Language of the proceedings:** EN

**Title of invention:**

Conditioning and cleansing composition for hair

**Patent Proprietor:**

Kao Germany GmbH

**Opponent:**

Givaudan SA

**Relevant legal provisions:**

EPC Art. 56

**Keyword:**

Inventive step - (no)



**Beschwerdekammern**  
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Case Number: T 0481/14 - 3.3.07

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.07**  
**of 7 April 2016**

**Appellant:** Givaudan SA  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 20 December  
2013 rejecting the opposition filed against  
European patent No. 1537847 pursuant to Article  
101(2) EPC.**

**Composition of the Board:**

**Chairman** J. Riolo  
**Members:** D. Semino  
I. Beckedorf

## Summary of Facts and Submissions

- I. European patent No. 1 537 847 was granted on the basis of 11 claims, independent claim 1 reading as follows:
- "1. Conditioning and cleansing composition for hair characterised in that it comprises at least one anionic surfactant, at least one non-ionic surfactant and at least one amphoteric or zwitterionic surfactant and, spray dried yoghurt powder at a concentration of 0.01 to 10% by weight, calculated to total composition, at least one cationic hair conditioning ingredient selected from cationic amphiphilic compounds, cationic polymers and cationic silicone derivatives or their mixtures."
- II. Two notices of opposition were filed in which revocation of the patent in its entirety was requested.
- III. During opposition proceedings, the following documents were cited, *inter alia*:
- D5: "Yogurtene", June 2000  
D5.1: "Yogurtene", November 2002  
D6: WO-A-03/078558  
D9.1: Euro Cosmetics, 2000, number 9, page 56  
D9.2: Adina Product News, "Yogurtene", Autumn 2000
- IV. The decision of the opposition division rejecting the opposition was announced at the oral proceedings on 5 November 2013. As far as relevant to the present decision, it can be summarised as follows:
- The subject-matter of granted claim 1 differed from the foam composition of example 2 of D6, which was the closest prior art, in the use of spray dried yogurt powder. The problem solved was the provision of an

alternative cleansing and conditioning composition. Even replacing the quaternium-79 hydrolysed milk protein with spray dried yogurt powder following the teaching of D9.1, the skilled person would still need to add a cationic hair conditioning ingredient, which would make it questionable whether the combination of D6 with D9.1 would prompt the skilled person to the claimed subject-matter. In addition, the comparative data provided by the patent proprietor with letter of 3 September 2013 showed unexpected effects of the combined use of spray dried yogurt powder and a cationic hair conditioning ingredient, including improved foam speed and foam creaminess. These effects were related to the technical problem initially suggested and supported the presence of an inventive step.

V. Opponent 2 (appellant) lodged an appeal against that decision. With the statement setting out the grounds of appeal, the appellant contested the decision *inter alia* insofar as inventive step was concerned.

VI. With the reply to the statement setting out the grounds of appeal, the patent proprietor (respondent) countered the objections and made reference to the three sets of claims filed as auxiliary requests 1 to 3 during opposition proceedings with letter of 3 September 2013.

Claim 1 of auxiliary request 1 corresponded to granted claim 1 with the specification that "the cleansing composition comprises anionic amphoteric or zwitterionic surfactants at a ratio 10:1 to 1:1". Claim 1 of auxiliary request 2 corresponded to granted claim 1 with the specification that the at least one cationic hair conditioning ingredient is "at a concentration of 0.01 to 7.5% by weight calculated to the total composition".

Claim 1 of auxiliary request 3 included the amendments of both auxiliary request 1 and 2.

- VII. In a communication sent in preparation of oral proceedings, the Board reviewed the submissions of the parties and, with regard to inventive step, expressed *inter alia* the preliminary opinion that "independently of the formulation of the technical problem and of the acknowledgement of a synergy between the ingredients, it appears that the addition of yogurt powder to the a composition such as the one of D6 (which would result in a composition according to granted claim 1) would be directly suggested by the prior art documents in order to improve several of its properties" (point 2.4, last sentence).
- VIII. With letter of 18 January 2016 opponent 1 withdrew the opposition.
- IX. Oral proceedings were held on 7 April 2016.
- X. The appellant's arguments, insofar as relevant to the present decision, can be summarised as follows:

*Granted claim 1 - inventive step*

- a) The composition of granted claim 1 differed from the composition of example 2 of document D6, taken as the closest prior art, in that it contained yoghurt powder. The technical problem was the provision of alternative conditioning and cleansing compositions for hair. The skilled person would add yoghurt powder to shampoo and conditioning products without any inventive activity in view of the teaching of any of D5/D5.1 or D9.1/D9.2, which disclosed that yoghurt powder was ideal for use in

shampoo and conditioners and that it improved the perception of several hair properties. These documents contained no information that other ingredients of the composition of D6 should be removed or replaced when adding yoghurt powder, nor was such a replacement derivable from any other prior art document. D5, in particular, was a sound document from a sound company providing clear information and data and it contained no indication that yoghurt powder should replace other ingredients or was incompatible with them. The resulting lack of inventive step could not be changed by the comparative data provided by the respondent. First of all, they did not provide a comparison with D6, which would have required a comparison of a composition according to D6 with one in which yoghurt powder had been added. Moreover, no clear comparative measurement was done, the number of testers indicating a preference for composition C was often lower or marginally higher than the one of the remaining testers and there was no statistical analysis. In addition, there was no proven synergy, nor any evidence of a surprising and unexpected effect, but they confirmed what could be expected. Finally, the improvement of foaming properties was not related to the presence of yoghurt powder in the application as filed, but to the amphoteric surfactants, which were known for these properties and already present in D6, so that these properties could not be inserted in the technical problem over D6. In summary, the addition of yoghurt powder to the compositions of D6 was made obvious by the hints in the prior art and this could not be changed by the additional data provided by the respondent.

*Auxiliary requests 1 to 3 - inventive step*

- b) The same was applicable to claim 1 according to any of the auxiliary requests, in which arbitrarily selected ranges for some quantitative parameters were added.

XI. The respondent's arguments, insofar as relevant to the present decision, can be summarised as follows:

*Granted claim 1 - inventive step*

- a) The reasoning in the appealed decision over D6 as the closest prior art was correct. Document D6, in particular, did not disclose the use of yoghurt powder in conditioning and cleansing compositions. The available comparative tests demonstrated that yoghurt powder and the cationic hair conditioning ingredients acted synergistically, as the tests showed that, keeping constant the total quantity of conditioning agent, the best results were obtained when the two ingredients were used together as opposed to when they were used individually. These tests were standard in the field, were statistically relevant and offered a reasonable comparison with D6, which disclosed ranges of compositions, but not a proper example. Moreover, there were no counter-examples from the appellant. On that basis, the problem solved over D6 was the provision of cleansing compositions with improved conditioning and foaming properties. The solution was not obvious, as D6 disclosed the use of a cationic conditioning agent, but not yoghurt powder and D5/D5.1 or D9.1/D9.2 disclosed yoghurt powder to be used as a single conditioning agent,

i.e. as a possible replacement of the conditioning agents of D6. Moreover, there was no information or hint about a possible synergy. In particular, D5, as the most relevant of these documents, was an advertising brochure of limited scientific value and exemplified a number of compositions, which contained yoghurt powder as the single conditioning agent, thereby teaching not to use it in combination with other conditioning agents. The tests in D5 did not provide enough detail about how they were conducted and were therefore not relevant. Not acknowledging an inventive step in the presence of the shown synergy would be against the prevailing case law and might require a referral to the Enlarged Board. In any case, the composition of granted claim 1 would be inventive over the compositions of D6 also in the absence of comparative examples, as, in order to arrive at it, the skilled person would need to replace a quaternized milk protein with yoghurt powder and choose a specific ingredient out of a general list.

*Auxiliary requests 1 to 3 - inventive step*

- b) The quantitative features added to claim 1 according to the auxiliary requests were further limitations which were neither disclosed, nor rendered obvious by the available prior art.

XII. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

XIII. The respondent requested that the appeal be dismissed, or in the alternative, that, in setting aside the decision under appeal, the patent be maintained in



amended form on the basis of one of the sets of claims filed as auxiliary requests 1 to 3 with letter of 3 September 2013.

## **Reasons for the Decision**

### *Granted claim 1 - inventive step*

1. It was agreed by the parties that document D6 is the closest prior art and that the composition of granted claim 1 differs from the compositions in the examples of D6 in that spray dried yoghurt powder at a concentration of 0.01 to 10% by weight is present. The Board has no reason to take a different approach.
  - 1.1 Indeed document D6 discloses compositions for cleansing hair and body and conditioning hair (claim 1, field of the invention on page 1 and first full paragraph of page 18). Its example 2 (page 17) specifically concerns a composition comprising *inter alia* sodium laureth sulfate (an anionic surfactant), PEG-30 and PEG-80 glyceryl cocoate (a non-ionic surfactant), cocoamidopropyl betaine (an amphoteric surfactant) and Quaternium-79 hydrolyzed milk protein (a cationic hair conditioning agent including a cationic polymer, see table in example 1 of D6 and paragraph [0043] in the patent). Similarly example 1 of D6 (page 16) discloses a composition comprising *inter alia* the same four ingredients and a further cationic polymer as conditioning agent (Polyquaternium 7, see paragraph [0042] in the patent).
  - 1.2 In order to formulate the technical problem which is solved by the claimed composition over the closest prior art, it is necessary to evaluate whether comparative data are available which show the presence of an effect related to the addition of spray-dried yoghurt powder to

the compositions of D6. In this respect it is appropriate to note that in order to obtain a composition according to granted claim 1 starting from the compositions of D6 it is not necessary to replace an ingredient and choose a second one, but it is sufficient to add spray-dried yoghurt powder in the foreseen quantity.

1.2.1 The data provided by the respondent with letter dated 3 September 2013 are the only data used to support the presence of an effect. In the tests contained therein a comparison has been made between a composition including yoghurt powder (composition A), compositions comprising a cationic conditioning agent selected among those listed in claim 1 instead of yoghurt powder (compositions B in four variants with four different agents) and compositions containing both ingredients as according to granted claim 1 (compositions C in the same four variants, wherein half of the cationic conditioning agent has been replaced by yoghurt powder). As the compositions of D6 comprise a conditioning agent (see point 1.1, above), it is the comparison between composition B and composition C which may be of relevance in the analysis of the presence of an effect over the closest prior art, while a comparison with composition A, which is neither representative of the closest prior art, nor of the claimed composition is of no relevance.

1.2.2 The data comparing the corresponding variants of compositions B and C show that the compositions in which half of the cationic conditioning agent has been replaced by yoghurt powder tend to have better foaming properties and better conditioning properties (see comparison of composition B and C in each of the four series of tests on pages 3, 5, 7 and 9 of the test

report), even if in a number of cases the improvement is only marginal (5 or 6 of the 10 testers consider the composition as better with respect to the achievement of a certain foaming or conditioning property).

- 1.2.3 The Board acknowledges that the application as filed and the patent do not establish a clear link between the addition of spray-dried yoghurt powder and an improvement of foaming properties and that the tests do not provide the ideal comparative data, as they do not directly compare compositions according to granted claim 1 with the compositions according to the examples of D6 (which is in any case hindered by the fact that the cited examples do not give specific compositions, but generic ones with ranges for the weight percentages of the components), as they do not simply add the missing ingredient to a composition according to the prior art, but replace half of the cationic polymer with yoghurt powder and as they do not provide a sound statistical analysis based on a large sample of testers.
- 1.2.4 However, as, even accepting the tests as proving the claimed technical effects and formulating the technical problem accordingly by including also the improvement of the foaming properties, it is concluded that an inventive step is missing, the Board does not consider necessary to analyse the weaknesses of the tests and the lack of a clear basis for an improvement of the foaming properties in any more detail.
- 1.2.5 In respect of the acknowledgement of the effects a relevant role is also played by the disclosure of document D5 which confirms that the addition of yoghurt powder to a basic shampoo improves foaming and conditioning properties (see in particular the paragraph

below the figure on page 5) and renders plausible the effects claimed by the respondent.

- 1.3 It is therefore considered that the problem solved over the disclosure of document D6 is the provision of cleansing compositions with improved conditioning and foaming properties.
- 1.4 As already outlined above (see point 1.2.5) document D5 concerns spray-dried yoghurt powder (see INCI name of the product "Yogurtene" on page 2 and the method of producing it in the second and third paragraph of page 3) and its use in cleansing and conditioning compositions. Under "Product Benefits" (page 2) it is specified that it improves several conditioning properties (hair combing, hair gloss, hair sensory attributes and hair volumising) and in the final paragraph ("Yogurtene Concepts" on page 8) it is specified that the product is ideal for use in conditioner or shampoo for fine hair. In addition an efficacy study for haircare applications is presented (page 5) in which a basic shampoo is compared with the identical base with 1% Yogurtene in a double blind half-head test by testing on a group of ten people with a variety of hair lengths and styles. The test shows that both conditioning and foaming properties (foam texture, wet detangling, wet combing, dry combing, gloss, dry feel, see figure on page 5) are improved by means of the addition of spray-dried yoghurt powder.
- 1.5 While the respondent has contested the relevance of these tests, the Board sees no reason to discard the result in D5, as it finds them as plausible and convincing as the one provided by the respondent himself and as they even mention that a statistical analysis was

conducted to confirm their relevance (last paragraph on page 5).

- 1.6 Document D5 therefore provides a clear teaching that in order to improve conditioning and foaming properties spray-dried yoghurt powder should be added to cleansing and conditioning compositions.
- 1.7 Contrary to the submissions of the respondent, the Board is not able to find neither in D5, nor in D6 an indication that this kind of compositions should contain a single conditioning agent, so that spray-dried yoghurt powder should not be added to a composition already containing a conditioning agent, but should at most replace such an agent. Indeed the compositions of D6 may contain a plurality of conditioning agents (see example 1 of D6 on page 6 with Polyquaternium 7 and Quaternium-79 hydrolyzed milk protein) and in D5 the advantageous effects of Yogurtene are presented without specifying any limitation on the cleaning and conditioning compositions to which it may be added.
- 1.8 On that basis, the skilled person, starting from the compositions of D6 and aiming at providing cleansing compositions with improved conditioning and foaming properties, would follow the teaching of document D5 and add spray-dried yoghurt powder in a quantity as exemplified therein (1% in the tests of D5), thereby obtaining a composition according to granted claim 1 without exercising any inventive activity.
- 1.9 The arguments of the respondent concerning a possible synergy between the cationic hair conditioning ingredient and spray-dried yoghurt powder do not affect the reasoning developed so far and do not change therefore the conclusion reached.

- 1.9.1 The typical case in which the presence of a synergy between two features of a claim has an impact on the analysis of inventive step is when both features constitute differences with respect to the closest prior art. In a case with a plurality of distinguishing features it is indeed crucial for the formulation of the technical problem to establish whether the features are functionally independent or have interrelated functions. In case they act synergistically (i.e. they lead to an effect which goes beyond the sum of the effects of each feature taken in isolation), this has to be taken into account in the formulation of the technical problem and in analysis of the obviousness of the solution (Case Law of the Boards of Appeal, 7th edition 2013, I.D.9.2).
- 1.9.2 When, as in the present case, a single distinguishing feature is present, it needs instead to be considered what effect(s) is(are) achieved by its addition to the known subject-matter. If its addition provides the effect(s) for which the missing feature is known to be added in the relevant technical field, inventive step is lacking and a possible synergy with other features already present in the prior art related to exactly the same effect(s) does not change the analysis of inventive step according to the problem-solution approach.
- 1.9.3 In view of this the Board does not consider the conclusion which has been reached as conflicting with the case law relating to synergy, so that it is neither necessary, nor appropriate to refer a question on the issue to the Enlarged Board of Appeal. As the respondent has not cited any decision whose approach should differ from the present one, there is no need for the Board to analyse the case law in any further detail.

- 1.10 For these reasons, the composition of granted claim 1 does not involve an inventive step.

*Auxiliary requests 1 to 3 - inventive step*

2. Claim 1 of auxiliary request 1 corresponds to granted claim 1 with the specification that "the cleansing composition comprises anionic amphoteric or zwitterionic surfactants at a ratio 10:1 to 1:1".
- 2.1 In the composition of example 2 of document D6 the anionic surfactant (sodium laureth sulfate 26%) is present in a quantity of 0.1-2 weight percent and the amphoteric surfactant (cocamidopropyl betaine 30%) in a quantity of 0.1-3 weight percent. In the composition of example 1 of D6 the quantities are 4-7 and 1-5 weight percent respectively. These disclosed quantities result in a range for the ratio of the anionic and the amphoteric surfactants which is largely overlapping with the one of claim 1 of auxiliary request 1, so that the added feature does not constitute a further distinguishing feature with respect to the disclosure in D6.
- 2.2 The reasoning developed for granted claim 1 therefore applies mutatis mutandis to claim 1 of auxiliary request 1 with the consequence that the composition of claim 1 of auxiliary request 1 does not involve an inventive step.
3. Claim 1 of auxiliary request 2 corresponds to granted claim 1 with the specification that the at least one cationic hair conditioning ingredient is "at a concentration of 0.01 to 7.5% by weight calculated to the total composition".

- 3.1 The composition of example 2 of D6 contains the cationic conditioning agent (Quaternium-79 hydrolyzed milk protein) in a quantity of 0.01-0.5 weight percent. The composition of example 1 of D6 contains the cationic conditioning agents (Polyquaternium 7 and Quaternium-79 hydrolyzed milk protein) in a quantity of 0.5-3 and 0.01-0.5 weight percent respectively. The disclosed ranges are fully overlapping with the range given in claim 1 of auxiliary request 2, so that the added feature does not constitute a further distinguishing feature with respect to the disclosure in D6.
- 3.2 The reasoning developed for granted claim 1 therefore applies *mutatis mutandis* to claim 1 of auxiliary request 2 with the consequence that the composition of claim 1 of auxiliary request 2 does not involve an inventive step.
4. Claim 1 of auxiliary request 3 includes the amendments of both auxiliary request 1 and 2.
  - 4.1 In view of the analysis undertaken for claim 1 of auxiliary requests 1 and 2 (see points 2.1 and 3.1, above) no further distinguishing feature over the disclosure of document D6 can be acknowledged with respect to granted claim 1.
  - 4.2 The reasoning developed for granted claim 1 therefore applies *mutatis mutandis* to claim 1 of auxiliary request 3 with the consequence that the composition of claim 1 of auxiliary request 3 does not involve an inventive step.



*Conclusion*

5. As claim 1 according to all requests on file does not involve an inventive step, there is no need for the Board to decide on any other issue.

**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:



N. Schneider

J. Riolo

Decision electronically authenticated