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D E C I S I O N
of 21 November 2003

Case Number: T 0602/99 - 3.3.6

Application Number: 90104998.1

Publication Number: 0388810

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Language of the proceedings: EN

Title of invention:
Neutral liquid detergent composition

Patentee:
KAO CORPORATION

Opponent:
Cognis Deutschland GmbH & Co. KG

Headword:
Neutral detergent composition/KAO

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
G 0009/92, T 0565/97, T 1137/97

Catchword:
-



Case Number: T 0602/99 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 21 November 2003

Appellant: Cognis Deutschland GmbH & Co. KG
(Opponent) Henkelstrasse 67
D-40589 Düsseldorf (DE)

Representative: -

Respondent: KAO CORPORATION
(Proprietor of the patent) 1-14-10, Nihonbashikayaba-cho
Chuo-ku,
Tokyo (JP)

Representative: Wächtershäuser, Günter, Prof. Dr.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 May 1999 concerning maintenance of European
patent No. 0388810 in amended form.

Composition of the Board:

Chairman: P. Krasa
Members: P. Ammendola
C. Rennie-Smith

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning the maintenance in amended form of European patent No. 0 388 810 relating to a neutral liquid detergent composition.

II. The granted patent contains two claims. Claim 1 reads:

"1. A neutral liquid detergent composition comprising:

(a) 3 to 60% by weight of an alkyl glycoside represented by formula (I) as a non-ionic surfactant



wherein R_1 is a linear or branched alkyl, alkenyl, or alkylphenyl group having 8 to 18 carbon atoms, wherein R_2 is an alkylene group having 2 to 4 carbon atoms, G is a reduced saccharide residue having 5 to 6 carbon atoms, x is a mean value of 0 to 5, and y is a mean value of 1.2 to 1.42;

(b) 0.001 to 0.5% by weight of a higher alcohol having 8 to 14 carbon atoms, and

*(c) 0.01 to 4% by weight of at least one water-soluble organic or inorganic salt selected from the group consisting of sulfates, chlorides, borates, phosphates, *p*-toluensulfonates, *m*-xylenesulfonates, benzoates, malates, succinates, tartarates,*

citrates, lactates, and edates of sodium and potassium."

Dependent claim 2 defines a preferred embodiment of the detergent composition of claim 1.

III. The Appellant (Opponent) Henkel KGaA had opposed the grant of the patent and sought its revocation in full on the grounds of lack of novelty and inventive step (Article 100(a) in combination with Articles 52(1), 54 and 56 EPC). It had cited, *inter alia*, the following documents:

Document (4) = EP-A-0 301 298

Document (7) = EP-A-0 216 301

Document (8) = US-A-4 599 188

IV. The Respondent (Patent Proprietor) had requested that the patent be maintained on the basis of an amended description and an amended set of two claims, wherein claim 1 differed from the granted form (see above point II) only in that the final wording "*and potassium.*" had been substituted by "*and potassium; and said detergent composition being pH 6-8 under a raw liquid condition.*". A single amendment was made in the description by deleting "*preferably*" in respect of the pH range 6-8 at page 3, line 51.

V. In its decision, the Opposition Division found the amended claim 1 admissible under the provisions of Articles 123(2) and (3) EPC. It also considered that the claimed subject-matter was not anticipated by the

compositions disclosed in Document (4) and represented a non obvious solution to the technical problem of providing neutral liquid detergent compositions with improved foaming properties, rinsability, drainability and feeling to the hands. The Opposition Division found that the prior art disclosed in Document (8) was less relevant than that in Document (7), since the latter disclosed compositions which were skin-friendly and had improved foaming properties.

VI. The Appellant Henkel KGaA filed:

- (a) a notice of appeal dated 2 June 1999;
- (b) a letter dated 13 August 1999 containing a request for transfer of the opposition and appeal to Cognis Deutschland GmbH and also announcing that further evidence relating to the transfer was going to be filed by Cognis Deutschland GmbH and
- (c) the grounds of appeal dated 25 August 1999 and received by the EPO on 27 August 1999.

Cognis Deutschland GmbH filed, with a letter dated 25 June 1999 and received by the EPO on 27 August 1999, the announced further evidence.

VII. In a communication dated 11 April 2000 the formalities officer of Directorate-General 2 informed the parties that the initial Appellant/Opponent had been replaced by Cognis Deutschland GmbH, with effect from 27 August 1999.

- VIII. The Board, noting that copies of the letter of 13 August 1999 from Henkel KGaA and of the letter of 25 August 1999 from Cognis Deutschland GmbH (which formed the request for transfer of the appeal and opposition and its related evidence) had not been sent to the Respondent, decided to enclose copies thereof with a communication of the Board dated 29 August 2003, sent to the parties together with the summons to oral proceedings to be held before the Board on 21 November 2003. In this communication, the Board considered that Directorate-General 2 had no authority to deal with the above-cited transfer request since the case was, at the time this request was made, already the subject of appeal proceedings. However, the Board expressed the provisional opinion that this transfer should be allowed (as had happened as regards the same parties in, for example, T 565/97, unpublished in OJ EPO, see in particular paragraphs VI of the Facts and Submissions and 2 of the Reasons).
- IX. Cognis Deutschland GmbH then filed, with a letter dated 12 September 2003, another request for transfer of the opposition and appeal from Cognis Deutschland GmbH to Cognis Deutschland GmbH & Co. KG. Evidence of the transfer was filed therewith.
- X. The oral proceedings before the Board were held on 21 November 2003 in the announced absence of Cognis Deutschland GmbH & Co. KG.

After the discussion on the admissibility of the amendments carried out to the granted patent during the opposition proceedings in view of the requirements of Rule 57(a) EPC, the Respondent withdrew its former

request to dismiss the appeal and filed as a new request the maintenance of the patent as granted.

XI. The Appellant argued in writing substantially as follows.

It was possible to combine claims 1 and 7 of the patent Document (4) with passages in its description defining the preferred features of the invention claimed therein and thus to conclude that this citation anticipated the claimed subject-matter of the patent as amended. In particular, claim 1 disclosed the water-soluble salt (c) as defined in the patent in suit.

The Appellant did not dispute that the claimed compositions credibly solved the technical problem of providing a liquid detergent composition having improved foaming properties, rinsability, drainability and feeling to the hands, but maintained that the most relevant prior art with regard to the assessment of inventive step was represented by the detergent compositions for personal cleaning with allegedly improved foaming, rinse and feeling properties disclosed in Document (8), such as those disclosed in Example XXI therein. It concluded that Document (7) rendered it obvious to improve further the foaming and cleaning properties of the compositions of Example XXI of Document (8) by using therein alkyl glycosides with a degree of oligomerization of at most 1.4, so as to arrive at the patented compositions.

XII. The Respondent refuted the Appellant's arguments. Its arguments in writing and at the oral proceedings can be summarized as follows.

It maintained that several selections among the alternatives encompassed in Document (4) were needed to arrive at the claimed compositions.

Documents (7) or (8) were both suitable starting points for the assessment of inventive step, however the invention disclosed in the patent in suit was not rendered obvious by any of these documents either *per se* or in combination.

It also conceded that the skilled reader of the patent in suit could only interpret the term "*neutral*" as corresponding to the pH range of 6-8.

In its letter of 17 October 2003, the Respondent also raised the question whether, in view of the request for transfer of the opposition from Henkel KGaA to Cognis Deutschland GmbH and the subsequent filing of the grounds of appeal by Henkel KGaA, the appeal was admissible.

XIII. The Appellant requested in writing that the decision under appeal be set aside and that the European patent No. 0 388 810 be revoked.

The Respondent requested that the decision under appeal be set aside and that the patent be maintained as granted.

XIV. At the end of the oral proceedings, the Chairman announced the decision of the Board.

Reasons for the Decision

1. *Transfer of the appeal and opposition and admissibility of the appeal*

1.1 The Board considers the evidence filed in respect of the transfers of the appeal and opposition referred to at points VI and IX of the above Facts and Submissions sufficient to allow these transfers. Accordingly, the Appellant and Opponent is now **Cognis Deutschland GmbH & Co. KG**, with effect from 16 September 2003.

1.2 In respect of the admissibility of the appeal, the Board finds as follows:

Henkel KGaA, the party adversely affected by the appealed decision, submitted the grounds of appeal on 27 August 1999. On the same day, the last piece of evidence concerning the transfer of the procedural position as an opponent and an appellant from Henkel KGaA to Cognis Deutschland GmbH was received in the EPO. Therefore, the transferee Cognis Deutschland GmbH acquired the status of opponent/appellant only on 27 August 1999 (see T 1137/97 of 14 October 2002, point 4 of the Reasons) and Henkel KGaA ceased to be a party only after that date.

It follows, in the Board's judgment, that the grounds of appeal were duly filed by the proper party, i.e. Henkel KGaA. Thus, these facts do not render the appeal inadmissible.

2. *Admissibility of the Respondent's request in view of the prohibition of the "reformatio in peius"*
- 2.1 The Respondent/Proprietor requested the maintenance of the patent as granted even though the patent has been maintained in amended form (see above points IV and V of the Facts and Submissions) by a decision of the Opposition Division which was appealed only by the Appellant/Opponent.
- 2.2 This request originate from the discussion at the oral proceedings before the Board leading to the result that the addition to the wording of claim 1 as granted of the expression "*and said detergent composition being pH 6-8 under a raw liquid condition*" - i.e. the amendment resulting in the text of claim 1 considered allowable by the Opposition Division - amounts to a clarification of the preceding term "*neutral*" according to the **only** meaning to be attributed thereto in view of the whole disclosure of the patent in suit. This was explicitly confirmed by the Respondent at the oral proceedings and is self-evident from the patent description (compare page 2, line 7 "*The present invention relates..... particularly to a neutral liquid detergent composition*" with page 3, line 51 "*The pH range of a raw liquid of the detergent composition of the present invention is preferably 6-8...*" and with the fact that the pH has been "*adjusted*" to values between 6.2 and 8 in the invention examples).

Since the amendment to the wording of claim 1 undertaken during the opposition proceedings was only a clarification, it did not comply with the proviso under Rule 57(a) EPC that a European patent may be amended

during the opposition proceedings if the amendments are occasioned by a ground of opposition.

- 2.3 On the other hand, the fact that the amendment to the wording of claim 1 carried out during the opposition proceedings was only a clarification, its deletion - and thus the re-instatement of the same wording of claim 1 of the patent as granted - has no bearing on the extent of the subject-matter embraced by claim 1. Hence, to allow the Respondent's request leaves the Opponent and sole Appellant in the **same situation** as if it had not appealed. Similarly, the deletion and subsequent re-introduction of the term "*preferably*" in the description at page 3, line 51, do not change the meaning of the patent disclosure as a whole.

Therefore, the Respondent's request filed during the oral proceedings to maintain the patent as granted is not to be refused in view of the prohibition of *reformatio in peius* (see the decision of the Enlarged Board of Appeal G 9/92, OJ 1994, page 875).

3. *Novelty of the subject-matter of claim 1 (Articles 52(1) and 54 EPC)*
- 3.1 The Appellant has contested the novelty of the claimed subject-matter only in respect of the prior art disclosed in Document (4).

Its reasoning starts from the consideration that claim 1 of this document described a method for manufacturing a surface-active alkyl glycoside (hereafter "AG") starting from glucose and fatty

alcohols in the presence of an acid catalyst, whereby the latter was preferably an acid used in an amount of from 0.005 to 0.02 mol for each mole of glucose and selected from the group consisting of **sulphuric, phosphoric, p-toluene sulphonic acid and acidic ionic exchanger**. Claim 1 also specified the subsequent addition of **alkali, alkali earth or aluminium compounds** as neutralizing agents so as to produce a pH of at least 8. The Appellant then reached the conclusion that this claim explicitly disclosed the water-soluble salts (c) of claim 1.

3.2 However, the Board cannot accept this interpretation of claim 1 of Document (4). To arrive at a mixture of anions and cations corresponding to the salts mentioned in present claim 1, one has to **select** among the possible acid catalysts mentioned in claim 1 of Document (4) **those different from the ionic exchanger** and **select** among the possible neutralizing compounds **those made by alkali metals**. Then the skilled person must **select sodium and/or potassium** from this group of metals.

The Board thus concurs with the finding in the decision under appeal that several selections within the disclosure of Document (4) are necessary to arrive at the subject-matter of claim 1 of the patent in suit. Thus, the subject-matter of granted claim 1 is found not to be directly and unambiguously disclosed in this citation.

The subject-matter of claim 1 of the granted patent is therefore found to comply with the requirements of Articles 52(1) and 54 EPC.

4. *Novelty of the subject-matter of claim 2 (Articles 52(1) and 54 EPC)*

The same reasoning given above in respect of the subject-matter of claim 1 applies to its preferred embodiment defined in claim 2 as well.

5. *Assessment of the inventive step of the subject-matter of claim 1 (Articles 52(1) and 56 EPC)*

5.1 Claim 1 defines a neutral liquid detergent composition based on (a) AGs with a specified degree of oligomerization, (b) certain fatty alcohols and (c) specified water-soluble salts, and in which these ingredients must be present in specified amounts.

5.2 The Board observes that the patent in suit (see page 2, lines 7 to 10, and page 4, lines 2 to 4) discloses that the claimed detergent composition is mild to the skin or hair, has high foaming properties, produces good feeling to the hands, is easily rinsable and leaves a low amount of water on the washed object.

However, in the light of the prior art discussed in the description (see page 2, lines 34 to 43) and the properties actually tested in the examples it is immediately apparent that **the particular technical problem addressed in the patent in suit** is that of providing AG-containing detergent compositions with improved:

- (i) foaming properties,
- (ii) feeling to the hands,
- (iii) rinsability and
- (iv) drainability.

5.3 The Board observes that none of the available citations discloses detergent compositions displaying all these improved properties.

Document (7) - which was considered by the Opposition Division as disclosing the closest prior art - is found to address only one of the above identified properties: i.e. improved foaming properties (point (i)) in the above list).

Document (8) by comparison discloses AG-containing compositions with allegedly maximized properties (i) to (iii) (see column 4, lines 32 to 40, and column 8, lines 3 to 20).

Thus, the Board concurs with the Appellant that Document (8) offers itself as a suitable starting point for the assessment of inventive step.

5.4 It is undisputed that the patented compositions achieved the combination of improved properties (i) to (iv) indicated above, i.e. solved the particular technical problem addressed in the patent in suit.

The Board observes also that the experimental comparisons in Example I of the patent in suit demonstrate that the achievement of the desired combination of properties is dependent on the amount of salt and fatty alcohol, as well as on the nature of the latter.

Therefore, in the present case the assessment of inventive step concerning the subject-matter of granted claim 1 requires establishing the difference(s) between the claimed AG-compositions and those disclosed in Document (8) having maximized the properties (i) to (iii), and then establishing whether or not the person skilled in the art, aiming at further improving one or more of these properties, would modify their structure so as to arrive at compositions as defined in claim 1 as granted.

5.5 The Appellant has maintained that the person skilled in the art would start in particular from the composition disclosed in Example XXI of Document (8). However, it has given no reason as to why the skilled person, not being aware of the disclosure of the patent in suit, would select just this example as starting point.

5.6 The Board finds that the compositions in Document (8) which allegedly have maximized the properties (i) to (iii) (see the passages of Document (8) cited above at point 5.3) are those containing as cosurfactant alkylbenzene sulphonate (hereafter "LAS").

However, Example XXI is only one among many other LAS-containing examples disclosed in Document (8) (i.e. Examples I, II, V to X, XIV, XVI, XVIII to XXII).

Moreover the Board observes that, while Example XXI is the only example in Document (8) containing the water soluble organic salt "ammonium xylene sulphonate" similar to one of the salts (c) defined in granted claim 1, this prior art document is totally silent as to the function of this component in the compositions.

In the absence of any reason justifying the choice of the prior art disclosed in the specific Example XXI for establishing the features distinguishing the claimed compositions therefrom, the Board concludes that the skilled person could have started from any of the above quoted examples which are all broadly comparable and would only have selected the specific Example XXI on basis of the knowledge of the patent in suit, wherein similar (but different) xylene sulphonates are disclosed as contributing to the desired improvements. Therefore, the Appellant's reasoning is clearly based on hindsight.

- 5.7 The Board observes, as indicated above, that the claimed composition differs in general from the examples of the LAS-containing compositions disclosed in Document (8) *inter alia* by requiring the presence in the given amounts of the fatty alcohol (b) and a salt (c) as specified in granted claim 1.
- 5.8 The Board finds that neither Document (8) nor Document (7) disclose that it is critical to have an amount of free alcohol encompassed between 0.001 and 0.5 wt%.

Document (8) only indicates at column 3, lines 43 to 47, that it is preferable to have an amount of free fatty alcohol of less than 2 wt%, preferably of "*less than 0.5 wt%*", correspondingly the expression "*< 0.5% free fatty alcohol*" in Example XX or XXI may also indicate that the amount of this component is either 0 or lower than 0,001 wt%.

Document (7) is totally silent as to the amount of free fatty alcohol.

Thus, neither of the documents relied upon by the Appellant provide reasons which would prompt the person skilled in the art to select an amount of free fatty alcohol falling in the range defined in present claim 1.

5.9 Further, even though Document (7) discloses in general the possibility of adding salts as hydrotropic compounds or as thickening agents in amounts ranging from 3 to 15 wt% (see Document (7), the description from column 3, line 47 to column 4, line 13), it contains no incentive to the skilled reader to incorporate into the LAS-containing compositions of Document (8) a thickening salt or a hydrotropic compound in an amount of from 3 wt% up to no more than 4 wt%, the range defined in granted claim 1. On the contrary, the examples in Document (7) contain about 9 wt% of sodium cumolsulphonate as hydrotropic compound, i.e. more than twice the maximum amount required in granted claim 1.

The Board finds for these reasons that it was not obvious for the skilled person to modify the structure of the LAS-containing compositions disclosed in

Document (8) so as to arrive at the compositions comprising the ingredients in the amounts defined in granted claim 1, in the reasonable expectation of solving the existing technical problem (see above point 5.4). It follows, that the subject-matter of claim 1 complies with the requirements of Articles 52(1) and 56 EPC.

6. *Assessment of the inventive step of the subject-matter of claim 2 (Articles 52(1) and 56 EPC)*

The reasoning given above in respect of the subject-matter of claim 1 applies also to its preferred embodiment defined in claim 2.

Order

For these reasons it is decided that:

1. Cognis Deutschland GmbH & Co. KG be recorded as opponent and appellant with effect from 16 September 2003.
2. The decision under appeal is set aside.
3. The patent is maintained as granted.

The Registrar:

The Chairman:

G. Rauh

P. Krasa