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**Datasheet for the decision
of 28 June 2022**

Case Number: T 3191/19 - 3.3.06

Application Number: 10765482.4

Publication Number: 2486117

IPC: C11D1/722

Language of the proceedings: EN

Title of invention:
Detergent composition

Patent Proprietor:
Reckitt Benckiser Finish B.V.

Opponent:
Henkel AG & Co. KGaA

Headword:
Detergent composition / RECKITT BENCKISER FINISH

Relevant legal provisions:
RPBA Art. 12(4)
EPC Art. 56

Keyword:

Admittance of one document filed with the statement of grounds
of appeal - yes

Inventive step (maintained claims) - yes

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 3191/19 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 28 June 2022

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
4 November 2019 concerning maintenance of the
European Patent No. 2486117 in amended form.**

Composition of the Board:

Chairman L. Li Voti
Members: P. Ammendola
C. Heath

Summary of Facts and Submissions

I. The appeals of the opponent and of the patent proprietor are against the interlocutory decision of the opposition division concerning maintenance of the European patent nr. 2 486 117 in amended form, on the basis of the first auxiliary request filed on 1 August 2019.

II. Claim 1 according to this first auxiliary request (hereinafter **maintained claim 1**) reads:

"1. A liquid automatic dishwashing detergent composition comprising:

a) liquid mixed ethoxylate / propoxylate fatty alcohol non-ionic surfactant, having 7 or 8 moles of the ethoxylate group and 4 or 5 moles of the propoxylate group in the molecule, and

b) a builder

wherein said detergent composition has a pH in the range of 9-12 as a 1%wt solution at 20°C".

The set of claims according to the first auxiliary request contains also dependent claims 2 to 13, concerning particular embodiments of the claimed liquid detergent composition, a method of preparing such a detergent composition (claim 14), a unit dose detergent composition comprising said liquid detergent composition (claims 15 and 16) and a method of reducing spotting on a hard surface by using such a liquid detergent composition or unit dose composition (claim 17).

III. In the decision under appeal, the opposition division found, *inter alia*, that the liquid automatic detergent

composition (hereinafter **LADD composition**) of maintained claim 1 was not obvious in view of **D3** (US 5,618,465 A) or **D4** (EP 0 518 719 B1) in combination with **D6** (Genapol® EP 2584 datasheet, 2004, Clariant). The opposition division also deemed not necessary to apply the problem-solution approach starting from D6, as this prior art was found to be a less valid springboard to arrive at the subject-matter of claim 1 than that of documents D3 or D4.

- IV. With its statement of grounds of appeal, the opponent filed **D9** (*Household Cleaning, Care, and Maintenance Products*; Verlag für chemische Industrie, 2004, pages 164 and 165) and also referred to **D2** (US 5,698,507 A).

The patent proprietor in its submissions *inter alia* filed some auxiliary requests and disputed the admittance of D9.

- V. Following the communication under Article 15(1) RPBA of 26 April 2022 in which the board expressed its preliminary opinion on some of the pending issues, the proprietor filed further submissions with a letter dated 23 May 2022.

- VI. During the oral proceedings held before the board on 28 June 2022, the proprietor withdrew its appeal. At this hearing, the parties' final requests were therefore established to be as follows:

The **opponent** (and sole appellant) requested that the decision under appeal be set aside and the patent be revoked.

The **proprietor** (and respondent) requested that the opponent's appeal be dismissed.

Reasons for the Decision

1. Admittance of D9

As exposed in the board's communication of 26 April 2022, the admittance into the proceedings of document D9, filed with the opponent's statement of grounds of appeal, is subject to the provisions of Article 12(4) RPBA 2007, since the opponent's appeal was filed on 9 December 2019. This document manifestly represents evidence of common general knowledge filed in reply to an argument in the decision under appeal. Hence, the board decided to admit it into the proceedings under the provisions of Article 12(4) RPBA 2007.

Main request (maintained claims)

2. Inventive step (Article 56 EPC): maintained claim 1

As to the amended form of the patent that the opposition division found to comply with the EPC, the opponent only disputed the finding in the decision under appeal that the subject-matter of the maintained claims (see II above) would be based on an inventive step vis-à-vis the prior art. It is self-evident and undisputed that the LADD composition defined in claim 1 is a composition (suitable) for cleaning dishware in automatic dishwashing.

2.1 Closest prior art

2.1.1 The parties did not dispute the findings of the opposition division that the closest prior art would be represented by D3 or D4.

In fact, each of D3/D4 focuses on the minimization of spotting and filming on dishware and glasses (see in D3 column 15, lines 62-63; and in D4 page 10, lines 32 to 34), i.e. refer to a similar technical problem onto which the patented invention undisputedly also focuses, namely the provision of an automatic dishwashing cleaning composition that also produces good anti-spotting/shine properties (see in the patent in suit, paragraphs [0001] and [0005]). The board incidentally stresses that anti-spotting is a clear different technical effect than the minimization of filming.

Both these documents indisputably disclose in the examples (see examples 1 and 2 of D3 and those in the left and the right column of the table on page 11 of D4) compositions for cleaning dishware in automatic dishwashing that comprise a builder and a non-ionic surfactant and that produce a pH of 9.10 as a 1 %wt solution. Hence, the subject-matter of maintained claim 1 only differs from the prior art disclosed in each of these examples of D3 and D4 for the specific structure of the non-ionic surfactant. In fact, in the relevant examples of D3 as well as in those of D4 the used non-ionic surfactant is only identified by the commercial name "Synperonic LFD 25" whose specific structure is unknown but it is assumed by the parties to be different from that required by claim 1 at issue.

Hence, the board, too, considers that any of these examples of D3 and D4 is equally suitable as point of departure for the assessment of inventive step for the subject-matter of maintained claim 1.

- 2.1.2 The opponent however also submitted that the opposition division erred in considering unnecessary to apply the problem-solution approach starting from D6 in addition.

In its reasoning, the opponent preliminarily stressed the breadth of maintained claim 1, which would cover any possible LADD composition comprising the specified non-ionic surfactant, and not just the use of this latter in LADD compositions.

It pointed to the disclosure in the data sheet D6 - describing the commercial product "®Genapol EP 2584" - of a "[l]ow foaming non-ionic surfactant for the detergent industry" in accordance with the definition of this ingredient in maintained claim 1 that was "especially suitable for the manufacture of low foaming cleaners and rinse aids for automatic dish-washing". Hence, in the opinion of this party, D6 would also implicitly disclose the use of this commercial product as the low foaming non-ionic surfactant normally present in the conventional compositions used for cleaning and rinsing dishware in automatic dishwashing. As conventional dishwashing cleaning compositions would always contain a builder and show an alkaline pH in the range of 9 to 11, as apparent from the common general knowledge also summarized in the table on page 165 of D9, the disclosure in D6 would only differ from the subject-matter of maintained claim 1 in that this latter required the claimed composition to be liquid. Therefore, this prior art was in the opponent's view as distant from the claimed subject-matter as the prior art disclosed in D3 or D4.

The opponent considered that different from the case of a hypothetical claim directed to the use of the patented LADD composition for dishwashing, the prior art closest to the subject-matter of maintained claim 1 had to be identified without considering the advantage that the patent alleged.

Nevertheless, the opponent additionally argued that the teaching conveyed by the wording "especially suitable for the manufacture of low foaming cleaners and rinse aids for automatic dish-washing" in D6 would be that the non-ionic low foaming surfactant described in this document could also be used e.g. for the conventional "all-in-one" automatic dishwashing compositions, simultaneously providing cleaning and rinsing benefits and, thus, also anti-spotting advantages (which undisputedly also are part of the effects of rinse agents) simultaneously with the actual cleaning of dirty dishware.

Accordingly, the opponent concluded that it was justified to also assess the presence of an inventive step starting from the prior art disclosed in D6.

- 2.1.3 The board notes preliminarily that - as also stressed in the decision under appeal and undisputed by the opponent - the Case Law of the Boards of Appeal (beside defining the closest prior art for assessing inventive step as the prior art document disclosing subject-matter conceived for the same purpose or aiming at the same objective as the claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications) also established that "a further criterion for the selection of the most promising starting point is the similarity of technical problem" (see in the last paragraph on page 7 of the decision under appeal). This criterion applies to any sort of claims, including the claims defining compositions of matter, as maintained claim 1.

As already stressed above in 2.1.1, it is undisputed that the technical problem onto which the disputed patent focuses is the provision of an automatic

dishwashing cleaning composition that allows to achieve good anti-spotting/shine benefits.

The board finds that the expression "especially suitable for the manufacture of low foaming cleaners and rinse aids for automatic dish-washing" in D6 *per se* does not even allow to conclude that the final wording "for automatic dishwashing" must necessarily also refer to the more distant wording "low foaming cleaners" (in addition to necessarily referring to the immediately preceding wording "rinse aids").

In any case, the sole clear teaching derivable from the above expression remains that the relevant commercial product is suitable for manufacturing two distinct sorts of conventional compositions.

In fact, the wording used does not imply the suitability of this commercial product for manufacturing compositions that act simultaneously as "low foaming cleaners" and as "rinse aids" in automatic dishwashing.

Hence, the board finds the teachings provided in D6 to be too limited and/or vague to justify the conclusion that this document would also imply that automatic dishwashing cleaning compositions comprising "®Genapol EP 2584" provide anti-spotting advantages.

Therefore, the board concludes that D6, different from D3 and D4, does not relate to automatic dishwashing cleaning compositions that also provide anti-spotting advantages, and, thus, does not fulfill the criterion for the selection of the most promising starting point based on the similarity of technical problem with the claimed invention.

2.1.4 Finally, the board stresses that D6 also does not disclose prior art requiring the same number of structural modifications (i.e. only one) to arrive at the claimed subject-matter, as disclosed in D3/D4.

Indeed, as convincingly argued by the proprietor, liquid automatic dishwashing detergent compositions possibly having a pH well below 9 were also conventional, in particular when they comprised enzymes. This would also be confirmed by the several patents describing liquid automatic dishwashing detergent compositions with a pH lower than 9 cited in the section devoted to the background art in column 1 of D2.

On the contrary, as also admitted by the opponent, the table on page 165 of D9 relate to conventional solid automatic dishwashing cleaning compositions, whose chemical composition (and, thus, necessarily also the pH that they produce in solution) may be substantially different from that of liquid compositions (as that of maintained claim 1).

Hence, to arrive at this latter the prior art disclosed in D6 requires at least two modifications, namely to select among the conventional "low foaming cleaners" (if used for automatic dishwashing) those having pH between 9 and 12 and those which are liquid.

On the contrary, as already discussed above, it is undisputed that the prior art disclosed in D3/D4 only requires one modification (i.e. to replace the non-ionic surfactant of unknown structure present in this prior art by means of a surfactant as defined in maintained claim 1) to arrive at the claimed subject-matter.

2.1.5 Hence, the board concludes that the prior art disclosed in D6 does not represent a starting point for the assessment of inventive step as suitable as the prior art of D3/D4. Thus, the decision of the opposition division not to discuss the objection of the opponent starting from D6 as closest prior art is also found correct.

2.2 The technical problem solved

As already indicated in 2.1.1 above, the technical problem that the patent in suit addresses (see in the patent in suit, paragraphs [0001] and [0005]) is the provision of an automatic dishwashing cleaning composition that also produces good anti-spotting/shine properties.

2.3 The solution and its success

2.3.1 According to maintained claim 1, the posed technical problem is solved by a LADD composition characterized in particular by a specific structure of the non-ionic surfactant and by providing a pH (in 1 wt% solution) of 9 to 12.

2.3.2 The opponent acknowledged that the experimental comparison in Examples 1 and 2 of the patent in suit (to which paragraph [0130] belongs) demonstrates that a LADD composition of the invention achieves superior anti-spotting results (including better shine perception) in comparison with a comparative composition only slightly differing in the structure of the non-ionic surfactant and for which the anti-spotting benefits are clearly not achieved.

The opponent stressed however that the non-ionic surfactant used in the comparative example was not the commercial product present in the prior art of departure (in D3/D4) and in addition differed from the non-ionic surfactant used in invention example not only in the number of moles of ethoxylate groups (**EO**) and propoxylate groups (**PO**) - because the comparative non-ionic surfactant comprises 5 EO and 5 PO, whereas that of the invention example comprises 8 EO and 4 PO - but also in the length of the alkyl chain (11 carbon atoms in the comparative non-ionic surfactant vs. 12 - 15 carbon atoms in that of the invention).

Hence, and also considering that, as acknowledged by the proprietor during the oral proceedings before the board, the properties of non-ionic surfactants may be expected to substantially change when increasing even just one unit the number of EO groups, e.g. from 2 EO to 3 EO, it would be justified to conclude that the evidence provided in the patent was insufficient to render plausible the success of the proposed solution vis-à-vis the prior art of departure and across the whole breadth of maintained claim 1, which imposed no restriction as to the alkyl chain and allowed for 7 or 8 EO and 4 or 5 PO.

2.3.3 The board notes preliminarily that in the absence of experimental evidence or any further information as to the chemical structure of the non-ionic surfactant used in the prior art of departure (i.e. the above identified examples of D3/D4), there is no reason to conclude that the superior good level of anti-spotting results displayed by the invention example might be expected to have already been achieved in the prior art of departure. Hence, the closest prior art is *per se* insufficient to call into question the plausibility of

the success of the solution to the posed problem as apparent from the disclosure in the patent in suit.

2.3.4 The board notes further that, as convincingly argued by the proprietor and finally undisputed by the opponent, non-ionic surfactants with alkoxyated groups are a well established class of chemical compounds for which the skilled person knows which chain length ranges are normally suitable for use in automatic dishwashing cleaning. Moreover, the skilled person would also know that the surfactant properties are much more influenced by a difference in the number of alkoxyated groups, e.g. the difference observed when going from 2 EO to 3 EO, than by a change in the number of carbon atoms in the alkyl chain. Hence, the experimental comparison described in the patent examples, in which the used non-ionic surfactants contain either 11 or between 12 and 15 carbon atoms, plausibly reflected only the effect of the difference in terms of number of EO and PO groups.

2.3.5 The board notes that the opponent failed to present any evidence rendering plausible that the level of anti-spotting results reported in this experimental comparison for the invention example with 8 EO and 4 PO, should not be expected for any of the sole three remaining options for the numbers of these units embraced by the definition of the non-ionic surfactant in maintained claim 1: namely

- 8 EO and 5 PO;
- 7 EO and 4 PO and
- 7 EO and 5 PO.

Moreover, each of these three alternative EP / PO numbers is undisputedly substantially closer to the number of EO and PO units present in the non-ionic surfactant of the invention examples, that to that (of

5 EO and 5 PO) present in the non-ionic surfactant used in the comparative example.

The mere fact that the proprietor has acknowledged that the surfactant properties are more influenced when changing the number of EO units from e.g. 2 to 3 than when changing the length of the alkyl chain, also does not justify to expect that one of these three other options of the number of EO and PO units embraced by maintained claim 1, could produce a change in the surfactant properties so significant to render plausible that their anti-spotting results could be equal to or even worse than those caused by the much different comparative surfactant.

2.3.6 Therefore, the board finds that, in the absence of any evidence to the contrary, the breadth of maintained claim 1 does not appear so large to necessarily imply that the success of the solution of the posed technical problem that the patent in suit demonstrates for one embodiment of the claimed subject-matter might not plausibly occur to any appreciable extent in a substantial number of other embodiments of the LADD composition claimed.

2.3.7 Hence, the subject-matter of maintained claim 1 is found to successfully solve the posed technical problem.

2.4 Non-obviousness of the solution

The opponent's line of argument that the combination of the prior art of departure with the disclosure of D6 (already resumed in 2.1.2 above) would render obvious the modification of the prior art of departure was based on the argument that the technical problem posed

in the patent in suit (see 2.2 above) was not solved (and, thus, that the objective technical problem was to be seen in the provision of an alternative to the prior art of departure). Hence, the opponent's submissions are not convincing if only for the reason that the technical problem solved is not correctly identified.

- 2.4.1 Even though D4 discloses on pages 4 and 5 several types of ethoxylated and propoxylated nonionic surfactants different from the claimed ones, the opponent also did not dispute the finding in the decision under appeal that "the available prior art does not contain any statement - even indirectly - possibly indicating that [®]Genapol EP 2584 or any other non-ionic surfactant with the claimed structure could improve the anti-spotting properties of an automatic dishwashing detergent composition" (see the third paragraph on page 7 of the decision under appeal).
- 2.4.2 Thus, the board finds that the opposition division was correct in finding that the skilled person starting from the examples of D3 or D4 and faced with the technical problem of providing a LADD composition that provides good anti-spotting/shine benefits over this prior art, would not find in the available prior art any reason to modify or adapt the teaching of D3 or D4 so as to arrive at the claimed solution.
- 2.4.3 Hence, the subject-matter of maintained claim 1 is found to involve an inventive step (Article 56 EPC) over the available prior art.

The same conclusion applies necessarily also to claims 2 to 17.

2.5 The board thus concludes that the opponent's appeal cannot succeed.

Order

For these reasons it is decided that:

The opponent's appeal is dismissed.

The Registrar:

The Chairman:



A. Pinna

L. Li Voti

Decision electronically authenticated