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**Datasheet for the decision
of 23 November 2023**

Case Number: T 0591/21 - 3.3.06

Application Number: 15153513.5

Publication Number: 3050953

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C11D3/39, C11D17/04, C11D3/22,
C11D3/386

Language of the proceedings: EN

Title of invention:
Detergent composition

Patent Proprietor:
The Procter & Gamble Company

Opponents:
Henkel AG & Co. KGaA
UNILEVER N.V. / UNILEVER PLC

Headword:
Phosphate-free dishwashing composition / PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 54, 56
RPBA 2020 Art. 12(4)

Keyword:

Novelty - (yes)

Experimental data filed with the grounds of appeal to be considered - (yes) - reaction to arguments of the decision

Inventive step - (yes) - arguments against experimental data not supported by evidence

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 0591/21 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 23 November 2023

Appellant: The Procter & Gamble Company
(Patent Proprietor) One Procter & Gamble Plaza
Cincinnati, OH 45202 (US)

Representative: Gill Jennings & Every LLP
The Broadgate Tower
20 Primrose Street
London EC2A 2ES (GB)

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

Representative: Viering, Jentschura & Partner mbB
Patent- und Rechtsanwälte
Hamborner Straße 53
40472 Düsseldorf (DE)

Party as of right: UNILEVER N.V. / UNILEVER PLC
(Opponent 2) Weena 455/100 Victoria Embankment
3013 AL Rotterdam/London, Greater London EC4Y 0DY
(NL)

Representative: van Benthum, Wilhelmus A. J.
Unilever Patent Group
Bronland 14
6708 WH Wageningen (NL)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
29 March 2021 concerning maintenance of the
European Patent No. 3050953 in amended form.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: L. Li Voti
 C. Heath

Summary of Facts and Submissions

- I. The appeals from opponent 1 and the patent proprietor are against the decision of the opposition division to maintain European patent no. 3 050 953 in amended form on the basis of the then pending auxiliary request 2.
- II. In its grounds of appeal, appellant I/opponent 1 submitted that claim 1 as upheld by the opposition division lacked novelty and inventive step over **D2** (WO 2009/040544 A1). Further, it filed new documents **D13-D15** and cited **D3** (Product data ACUSOL™ 588 D, Rohm and Haas, 2008) and **D4** (Product data ACUSOL™ 588 G, Rohm and Haas, 2008).
- III. In its grounds of appeal, appellant II/patent proprietor argued that claim 1 as granted was novel and involved an inventive step over **D7** (WO 2009/092699 A1) or D2. Further it submitted auxiliary requests 1 to 3 and **D17** (Experimental Report - Spotting and Filming Performance, by Lindsay Bewick, dated 28 July 2021).
- IV. In its reply, appellant I declared that the objections raised against claim 1 as upheld also applied to all other requests.
- V. In reply to opponent 1's appeal, appellant II filed auxiliary requests 4 to 12.
- VI. None of the appellants replied to the preliminary opinion issued by the board.
- VII. Opponent 2 (party as of right) did not submit any argument and informed that it would not be represented at the scheduled oral proceedings.

VIII. At the oral proceedings held on 23 November 2023, appellant II withdrew its main request and requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the claims according to one of auxiliary requests 1 to 3 submitted with the statement of grounds of appeal, or in the alternative, on the basis of one of auxiliary requests 4 to 12 submitted with letter dated 17 December 2021.

Appellant I requested that the decision under appeal be set aside and that the patent be revoked.

IX. Claim 1 of auxiliary request 1 reads as follows:

"1. A phosphate-free automatic dishwashing detergent composition in unit-dose form having a weight of from 8 to 25 grams, the composition comprising:

- i) greater than 5 to 8 grams of an organic complexing agent selected from the group consisting of methyl glycine diacetic acid, its salts and derivatives thereof, glutamic-N,N-diacetic acid, its salts and derivatives thereof, iminodisuccinic acid, its salts and derivatives thereof, carboxy methyl inulin, its salts and derivatives thereof, and mixtures thereof;*
- ii) a dispersant polymer;*
- iii) from 1 to 3 grams of bleach, and*

wherein the complexing agent and the dispersant polymer are in a weight ratio of from 10:1 to 20:1, wherein the dispersant polymer is selected from the group consisting of polycarboxylated polymers, sulfonated polymers and mixtures thereof."

Dependent claims 2 to 11 relate to particular embodiments of the claimed composition, claims 12 and 13 relate to methods of cleaning dishware wherein the

wash liquor comprises a composition as claimed and claim 14 relates to a use of the claimed composition.

Reasons for the Decision

Auxiliary request 1 - Novelty

1. Claim 1 of this request corresponds to auxiliary request 1 before the opposition division and relates to a phosphate-free automatic dishwashing detergent composition in unit dose form having a weight of from 8 to 25 grams, in particular characterised in that it contains
 - A) greater than 5 to 8 grams of a selected organic complexing agent which may be methyl glycine diacetic acid (**MGDA**);
 - B) a dispersant polymer;
 - C) from 1 to 3 grams of bleach; and in that
 - D) the complexing agent and the dispersant polymer are in a weight ratio of from 10:1 to 20:1,
 - E) the dispersant polymer being selected from the group consisting of polycarboxylated polymers, sulfonated polymers and mixtures thereof.

2. Appellant I argued that example 2 of D2 was novelty-destroying for the subject-matter of this claim, said example disclosing a phosphate-free automatic dishwashing detergent product in unit dose form containing a gel, a powder and a bleach (Perc), wherein the detergent composition is encased/wrapped in a pvoh resin (Cont.) and has a pvoh top-film (D2: page 7, lines 1-24), and the product contains 4.9 grams gel, 6.4 grams powder and 2.9 grams percarbonate bleach, i.e. 14.2 grams of detergent composition, which is in accordance with claim 1 at issue; further, the amount of bleach is in accordance with feature (C) of claim 1.

The detergent composition further comprises MGDA as an organic complexing agent in accordance with feature (A) of claim 1 at issue, as well as Acusol 588D and Acusol 588G, two copolymers of acrylic and sulphonic acids (see D3 and D4), as sulfonated dispersant polymers, which comply with features (B) and (E) of claim 1.

- 2.1 As regards the amounts of organic complexing agent and dispersant polymers, appellant I submitted that commercial MGDA, as shown in D13-D15, did not contain 100% methyl glycine diacetic acid, and that the Acusol products also did not contain 100% of the polymer, as shown in D3 and D4. Therefore, the reported amounts of components in example 2 of D2 had to be adjusted for calculating the weight ratio (D).
- 2.2 The board notes in this respect that even though the above example does not specify whether the indicated amounts relate to the active components or to any commercialised product, D2 (page 5, lines 7-9) states that "*Unless stated otherwise, all amounts herein are given as the percentage by weight of active ingredient based upon the weight of the total composition*". It follows that the amounts reported in example 2 must be considered to relate to the active ingredients and can be used as such for calculating the weight ratio (D). There is thus no need to consider documents D13-D15 and to decide on their admissibility.
- 2.3 The detergent product of D2/example 2 thus comprises:
- 4.9 grams of gel comprising 51% of MGDA powder, i.e. 2.499 grams of MGDA, 3% of Acusol 588D, i.e. 0.147 grams of dispersant polymers, and
 - 6.4 grams of powder containing 72.941% of MGDA granules, i.e. 4.668 grams of MGDA and 3% Acusol 588G, i.e. 0.192 grams of dispersant polymer.

It follows that the above prior art product comprises 7.167 grams of MGDA, i.e. an amount in accordance with the requirements of feature (A), and 0.339 grams of dispersant polymers.

The weight ratio of MGDA to the dispersant polymers is thus 21.142:1, which ratio is **outside** the limits of feature (D) of claim 1 at issue.

2.4 The composition disclosed in example 2 of D2 thus differs from the subject-matter of claim 1 in that it does not disclose feature (D), with the consequence that the subject-matter of claim 1 at issue is novel over D2.

2.5 For the same reason, dependent claims 2-11 at issue as well as method claims 12 and 13, relating to methods of cleaning dishware wherein the wash liquor comprises a composition as claimed, and claim 14 relating to a use of the claimed composition, also comply with the requirements of Article 54 EPC.

Auxiliary request 1 - Inventive step

3. The patent aims (paragraph [0006]) at providing an automatic dishwashing detergent composition with a good environmental profile, in particular:

- i) good cleaning, including that of soils difficult to remove such as baked-on, burnt-on soils and bleachable stains,
- ii) good finishing, i.e. leave the washed items free of filming, spotting and shining, and
- iii) good care, in particular of glass items that are prone to deterioration during automatic dishwashing and avoiding the staining of stainless steel items.

- 3.1 In the contested decision, documents D2 and D7 were both considered as suitable starting points for the evaluation of inventive step.

Appellant I argued in appeal that D2 represented the closest prior art but did not contest the decision of the opposition division that the subject-matter of claim 1 of auxiliary request 1 was inventive over D7. According to Article 12(3) RPBA 2020, only the inventive step issue starting from document D2 is thus part of appellant I's case and is to be considered.

- 3.2 D2 (page 2, lines 20-28) concerns the provision of a detergent composition exhibiting good enzyme stability and performance. In particular the composition of example 2 (see page 27, lines 1-11), provides better performance on dried-on protein soils and bleachable stains. It follows that this document, which deals at least in part with the technical problem indicated in the patent and discloses a composition (example 2) differing from that of claim 1 at issue only in one aspect (the weight ratio of MGDA to dispersant polymers), is a suitable starting point for the evaluation of inventive step.

- 3.3 The patent in suit does not contain any direct comparison with D2/example 2, but shows (paragraphs [0096]-[0107]) that composition 2 according to the invention, having a weight ratio of organic complexing agent (MGDA) to dispersant sulfonated polymer of 15:1, i.e. in the middle of the claimed range of 10:1 to 20:1, provides better bleaching of tea stains, less spotting whilst maintaining lack of filming, and better removal of egg yolk stains and egg yolk/milk soils than composition 1 having a weight ratio of MGDA to dispersant polymer of 4.2:1, i.e. a ratio below the

lower limit of claim 1 at issue. As stated in paragraph [0104] of the patent, the better performance in spot prevention is surprising since the dispersant polymer level of the inventive composition was lower than in the comparative one.

- 3.3.1 The opposition division considered in its discussion of inventive step that the experimental evidence in the patent was not apt to show an advantage over the prior art, so that the objective technical problem had to be formulated as the provision of an alternative phosphate-free automatic dishwashing composition. In particular, it held the experiments in the patent
- (1) to contain a comparison which was not apt to show any effect over D2, because the total amount of MGDA and sulfonated polymer in compositions 1 and 2 was not identical;
 - (2) not to contain any comparison with respect to D2/example 2 as closest prior art, and
 - (3) to contain data not demonstrating that the claimed range D (10:1 to 20:1) showed an unexpected improvement over and above those parts of the original range (5:1 to 25:1) which were no longer claimed.

- 3.4 In view of this conclusion, appellant II filed experimental report D17 with its statement of grounds of appeal, that appellant I requested not to admit into the appeal proceedings, since it could and should have been filed already during opposition proceedings.

- 3.4.1 The board remarks that argument (1) above was presented for the first time during oral proceedings before the opposition division; argument (2) was put forward for the first time by opponent 2 in its letter of 27 November 2020 (paragraph 30), i.e. only 2 months before oral proceedings, and argument (3) has not been

presented by the parties before oral proceedings at all.

In fact, opponent 2 contested in its notice of opposition (paragraphs 21-22) the absence of comparative examples near the border of the claimed weight ratio only when discussing inventive step over document D7 but not over D2. Moreover, the presence of a technical advantage over the cited prior art was neither contested in writing either by opponent 1 nor by the opposition division which, in writing, also held D7 (rather than D2) to be the most promising starting point for discussing inventive step.

Under these circumstances, in the board's view the proprietor had no reason to file further experiments addressing all the above objections before oral proceedings in opposition and thus, could file a further experimental report only in appeal after having taken notice of the issues (1)-(3) considered relevant in the decision of the opposition division. Therefore, the filing of D17 with the grounds of appeal is found to be a justified reaction to the arguments of the decision under appeal.

- 3.4.2 Appellant I also contested the admissibility of experimental report D17 on the ground that it lacked relevance since it not only failed to provide a complete description of the protocol, but also applied conditions for the tests different from those used in the patent in suit; finally, it failed to indicate the least significant difference for the measured values. Appellant I also argued that the 5% difference between the reported spotting values of example B and comparative example D was not significant.

However, the board notes that experimental report D17 discloses the conditions adopted in the test wash procedure and in the spotting and filming test. Since both the wash procedure and the performed tests are conventional, the board is convinced that a person skilled in the art would be able to repeat them without difficulty also in the absence of a complete protocol to be followed. Moreover, even though the tests of D17 are carried out under conditions different from those used in the patent, this fact cannot impair their relevance since such conditions are not part of the claimed subject-matter.

In particular, D17 compares compositions having the same total amount of MGDA and sulfonated dispersant polymer but different weight ratios, composition 1 (example A) having a ratio of 4.2:1 (like that of composition 1 of the patent), compositions 2 and 3 (examples B and C) having ratios of 10:1 and 15:1, respectively, thus in accordance with claim 1 at issue, and composition 4 (example D) having a ratio of 21:1, as that of the closest prior art.

As shown in the reported filming and spotting test, examples B and C according to the patent provide better spotting values (5.9 and 6.4) than examples A and D outside the limits of claim 1 (5.2 and 5.6) and maintain lack of filming. Moreover, example C is clearly better than example B, itself better than example A, and example D is worse than examples C and B; thus these tests show a gradually improved performance within the claimed weight ratio, which is however not maintained by further increasing the weight ratio above the upper limit of claim 1 at issue (example D).

Even though these tests do not contain an indication of the least significant difference and the smallest difference in spotting value between a composition according to claim 1 at issue and one outside the scope of the claim (B vs. D) amounts to 5%, no evidence has been put forward that already a 5% difference in the reported spotting values would not be significant. It is also noted that the latter argument was never put forward against the examples of the patent in suit, which also do not indicate the least significant difference.

Moreover, these tests support and confirm the teaching of the patent regarding spot prevention (paragraph [0104]) and show an improvement also related to the distinguishing feature over the closest prior art D2/example 2, disclosing a weight ratio of MGDA to sulfonated dispersant polymers greater than 20:1.

- 3.4.3 The board also underlines that it is established case law (Case Law of the Boards of Appeal, 10th edition, July 2022, Chapter III, G 5.1.2.b)) that the problem stated in a granted patent is deemed to have been plausibly solved by the claimed invention when there are no grounds to suspect otherwise and that in opposition (or any subsequent appeal) proceedings it is insufficient for the opponent to attack a granted patent with an unsubstantiated assertion. The opponent in such case bears the burden of proving its assertion or must at least furnish evidence that may raise doubts that the problem has indeed been solved.

In the present case in which the proprietor's data on file support the teaching of the patent, the burden of proof lies thus on the opponent to confirm its allegation that the invoked effect is not achieved

across the entire scope of the claims and thus also over the closest prior art. In the absence of any counter-evidence by the opponent, the board has no reason to assume that a composition at the border of the claimed range would not be better than that of D2/example 2.

3.4.4 For all these reasons, the fact that the tests of D17 do not contain any comparison with the same composition of the closest prior art does not jeopardize their relevance. The board thus concludes that D17 is relevant and has to be considered under Article 12(4) RPBA 2020.

3.5 Appellant I further argued during oral proceedings that the alleged improvement was not convincingly shown across the entire scope of claim 1 since D17 did not contain any experiment relating to compositions comprising polycarboxylated dispersing polymers or without non-ionic surfactants in their liquid part, such compositions being encompassed by claim 1 at issue.

The board notes however that also for these statements, not submitted beforehand during the written appeal procedure or during opposition, the burden of proof lies on the opponent for the same reasons exposed above. Conversely, in the absence of any evidence, the board has no reason to assume that a composition comprising a polycarboxylated dispersant polymer instead of a sulfonated one, or not comprising non-ionic surfactants in its liquid part, would behave differently from the composition tested in D17 and would not provide better spot prevention as taught in the patent in suit.

3.5.1 The technical problem convincingly solved by the patent in suit over the closest prior art has thus to be formulated as the provision of a further phosphate-free automatic dishwashing detergent composition having a good environmental profile that provides good cleaning, lack of filming and reduced spotting.

3.6 As to the question whether the claimed subject-matter was obvious for the skilled person, D2 does not contain any teaching or suggestion how to adapt the composition of example 2 in order to reduce spotting. In fact, D2 (page 5, lines 1-5 and claim 1) teaches only to improve bleaching or cleaning performance by separating the bleaching compound and the enzyme in distinct regions.

Moreover, even if the skilled person starting from the composition of example 2 comprising about 50% of MGDA could reduce the amount of MGDA within the preferred range of 20 to 65 wt% disclosed for amino acid base builders (page 14, lines 15-17) and thus a weight ratio (D) as claimed in the patent in suit could be theoretically achieved by leaving the amounts of dispersant polymers of example 2 unchanged, the skilled person would not, among all possible variables offered by D2, select amounts of MGDA and dispersant polymers leading to a weight ratio as claimed in the patent with the expectation of providing compositions having at the same time good cleaning, lack of filming and **reduced** spotting, as this combination of effects is not foreshadowed for any of the compositions encompassed by the disclosure of D2.

3.7 Therefore, the board concludes that the subject-matter of claim 1 according to auxiliary request 1 is not obvious for the skilled person and so involves an inventive step under Article 56 EPC.

The same conclusion applies to the dependent claims 2-11, the method claims 12 and 13 relating to methods of cleaning dishware wherein the wash liquor comprises a composition as claimed and to claim 14 relating to a use of the claimed composition.

4. The claims according to auxiliary request 1 thus comply with all the requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of claims 1-14 according to auxiliary request 1 filed with the grounds of appeal and a description to be adapted where necessary.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated