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Datasheet for the decision of 13 October 2009

Case Number: T 1936/07 - 3.3.06

Application Number: 95928210.4

Publication Number: 0775191

IPC: C11D 3/04

Language of the proceedings: EN

Title of invention:
Detergent composition

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Unilever PLC

Headword:
Solution pH/PROCTER & GAMBLE

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 56
RPBA Art. 13(1), 13(3)

Keyword:
"Admissibility of the Appellant's late filed experimental report: no"
"Inventive step (all requests): no - technical advantage not proven over example of the closest prior art having the least technical differences with respect to the claimed subject-matter"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1936/07 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 13 October 2009

Appellant: (Patent Proprietor)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 19 September 2007 revoking European patent No. 0775191 pursuant to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent no. 775 191 concerning a granular detergent composition.

II. In its notice of opposition the Opponent sought revocation of the patent on the grounds of Article 100(a) EPC, *inter alia* because of lack of an inventive step of the claimed subject-matter.

The Opponent referred during the opposition proceedings *inter alia* to the following documents:

(3): WO-94/24238 and
(4): EP-A-396287.

III. As regards the then pending set of claims the Opposition Division found in its decision that

- the closest prior art was represented by document (3);

- the subject-matter of claim 1 differed from that of document (3) insofar as a surfactant system, a builder system, enzymes and a bleach together with a bleach activator are compulsorily present in amounts largely overlapping with those specified in document (3) and that surfactant is used in excess over the builders;

- however, the technical contributions provided by these differences were known to the skilled person because of his general knowledge or from the other cited documents such as document (4);

- therefore, the skilled person facing the task of achieving said benefits would have combined the teaching of document (3) with his general knowledge or with the teaching of, for example, document (4) and would have arrived at the claimed subject-matter;

- the claimed subject-matter thus lacked an inventive step.

IV. An appeal was filed against this decision by the Patent Proprietor (Appellant).

The Appellant submitted with the statement of the grounds of appeal four sets of claims to be considered as main request and first to third auxiliary requests, respectively.

With a fax dated 18 September 2009 the Appellant submitted a new experimental report.

Oral proceedings were held before the Board on 13 October 2009.

V. The independent claim 1 according to the main request reads as follows:

"1. A granular detergent composition comprising 10 to 50% of a surfactant system, 5 to 50% of a builder system, 1 to 40% of a bleach system comprising a bleach and a bleach activator, and 0.01 to 5mg by weight active detergency enzymes per gram of composition, characterised in that the ratio of said surfactant system to said builder system is 1.0:1.0 to 4.0:1, and

the pH of a 1 % solution of said composition at 20°C is from 8 to 9.8."

Claim 1 according to the first auxiliary request differs from claim 1 according to the main request only insofar as the pH of a 1% solution of said composition is from 9 to 9.8.

Claim 1 according to the second auxiliary request differs from claim 1 according to the main request only insofar as it contains the wording "wherein any alkyl ethoxylate is a condensation product of aliphatic alcohol with 1-25 moles ethylene oxide," between the wordings "10 to 50% of a surfactant system," and "5 to 50% of a builder system...".

Claim 1 according to the third auxiliary request differs from claim 1 according to the main request only insofar as the builder system amounts to 15 to 35% of the composition.

VI. The Appellant submitted in writing and orally *inter alia* that

- the invention had found that an increase in the builder level in terms of weight ratio with respect to other ingredients such as surfactants beyond a certain level did not significantly increase the bleachable stain removal performance of the composition;

- as shown by the comparative tests submitted with the letter of 28 April 2003 during examination the compositions of the invention not containing unnecessary amounts of builder and having a lower

solution pH than the compositions commonly used showed a higher cleaning activity and in particular an improved lipid removal, enhanced enzyme activity, enhanced kinetic chelant protease enhanced bleaching and reduced stain darkening;

- document (3) encompassed compositions having high levels of builders and capable of providing an alkaline wash pH above 10; furthermore, even though the composition of example II of this document had a builder level like in the patent in suit, this document did not suggest that this isolated example was more relevant than the other ones wherein higher amounts of builders were used; moreover, all the exemplified compositions provided upon dissolution an alkaline pH above 10; therefore, document (3) did not contain any suggestion for the skilled person that the selection of low levels of builders and of a lower solution pH would bring about the technical advantages obtained by means of the claimed invention; the experimental evidence submitted with fax of 18 September 2009 showed, in particular, that a composition similar to that of example II of document (3) but having a lower solution pH brought about an unexpected improved cleaning performance on bleachable polyphenolic stains;

- as regards document (4), this document taught that optimal peracid bleaching was achieved by using an initially high wash pH above 10 to allow optimal perhydrolysis and peracid formation and by reducing thereafter the wash pH to permit optimal stain removal; therefore, this teaching would teach away from using a composition having a lower solution pH;

- in particular, the prior art did not suggest that improvements in cleaning performance such as a better removal of polyphenolic stains could be achieved by lowering both the level of builders and the solution pH of the composition;

- therefore, starting from the teaching of document (3), the skilled person, even considering the teaching of the other cited documents and his common general knowledge, would not have found any suggestion to simultaneously select all the features of claim 1 in order to solve the technical problem underlying the invention.

As regards the late filed experimental evidence, the Appellant submitted during oral proceedings that there had been a short time left between the summons to oral proceedings and the date for oral proceedings and that the decision to carry out experiments was taken only after a discussion with the technical people of the Appellant. Therefore, the experimental evidence could not be ready at an earlier stage. However, this evidence just confirmed the experiments submitted with the letter of 28 April 2003 during examination but had been focused on the cleaning performance on polyphenolic stains. Therefore, the content of this new evidence could not be surprising to the Respondent.

VII. The Respondent submitted in writing and orally *inter alia* that

- the experimental evidence submitted with fax of 18 September 2009, less than one month before oral proceedings, about two years after the decision under

appeal and more than one year after the Respondent's reply to the statement of the grounds of appeal was belated; moreover, there was not sufficient time left for the Respondent to contest such evidence, for example, by means of further experiments before oral proceedings; therefore, the new experimental evidence had not to be admitted into the proceedings;

- the experimental report of 28 April 2003 submitted during examination did not indicate which composition had been tested; therefore, it was unknown if the composition tested fell within the extent of present claim 1; this evidence thus could only show what was already known from the common general knowledge;

- example II was not the only example of document (3) having a builder level like that required in the patent in suit and was an example representative of the teaching of this document; since no evidence of a technical improvement had been shown with regard to the closest composition of document (3), i.e. that of example II, the objective technical problem underlying the invention could only be formulated as the provision of an alternative composition having a comparable cleaning performance;

- the composition of example II differed from the claimed subject-matter only insofar as it could have a higher solution pH; however, document (3) taught that lower solution pHs could be used;

- moreover, it was known, for example, from document (4) that it was advantageous to select a bleach system giving upon dissolution initially an alkaline pH and

then a lower pH in the range of the patent in suit in order to permit sufficient formation of the peracid which was more active on stains at such a lower pH;

- therefore, the skilled person would have arrived at the claimed subject-matter by simply following the teachings of documents (3) and (4);

- the subject-matter of each claim 1 according to all requests thus lacked an inventive step.

VIII. The Appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or, in the alternative, on the basis of any of the first to third auxiliary requests, all requests submitted with the statement of the grounds of appeal.

IX. The Respondent requests that the appeal be dismissed.

Reasons for the Decision

1. *Admissibility of the Appellant's late filed experimental report.*

1.1 After having been summoned to oral proceedings, the Appellant submitted an experimental report with the fax of 18 September 2009.

Since the above experimental report has been submitted more than one year after the Respondent's reply to the statement of the grounds of appeal and the Appellant had not informed the other party and the Board of its

intention to submit any experimental evidence in its statement of the grounds of appeal, this new evidence amounts to an amendment of the Appellant's initial case which could be admitted only at the Board's discretion (Article 13(1) Rules of Procedure of the Boards of Appeal (RPBA)).

Moreover, since it has been submitted after oral proceedings were arranged, in particular less than 1 month before oral proceedings, it had to be evaluated if its introduction into the proceedings would have raised issues which the Board or the other party could not reasonably be expected to deal with without adjournment of the oral proceedings (Article 13(3) RPBA).

1.2 The Appellant's argument that the evidence could not be provided earlier since the summons to oral proceedings had been relatively short in advance of the date set for oral proceedings has to be dismissed as the submission of the new experimental evidence has not been caused by any new facts arisen from the summons themselves. Moreover, it is undisputed that the experimental evidence in question is based on a new set of tests which are different from those contained in the experimental evidence of 28 April 2003 which was already on file. Therefore, they cannot be considered to represent simply an explanation of the previous tests.

After having received this new experimental report the Respondent had less than one month time before oral proceedings for preparing itself to the new case submitted by the Appellant and had not sufficient time

for preparing any possible counter evidence, if desired. This is, independently on the complexity of the newly submitted evidence, a much shorter time than that passed between the Respondent's reply to the statement of the grounds of appeal and the filing of the Appellant's new experimental report.

Therefore, the Board finds that the admission of this new evidence into the proceedings without adjourning oral proceedings would have adversely affected the Respondent and would have been contrary to the principle of equal treatment of the parties.

The Board thus concludes that the experimental report submitted with letter of 18 September 2009 was not to be introduced into the proceedings.

2. Main request

2.1 *Articles 123 (2) and (3) EPC; Novelty*

The Board is convinced that the claims according to the main request comply with the requirements of Articles 123(2) and (3) EPC and are novel over the cited prior art.

Since the appeal fails on other grounds further details are unnecessary.

2.2 *Inventive step*

2.2.1 The invention of claim 1 relates to a granular detergent composition comprising specific amounts of a surfactant system, a builder system, a bleach system

and detergency enzymes and having a solution pH, i.e. a pH as a 1 % solution at 20°C, of from 8 to 9.8.

The Board agrees with the Appellant that it is clear from the text of the patent in suit and, especially, from the examples, that the builder system of claim 1 has to be interpreted as not including the builders carbonate and bicarbonate which are specifically indicated in the patent in suit as being part of the buffer system, which is subject-matter of dependent claim 10.

Moreover, the Board remarks that the solution pH of claim 1 can only refer to the pH of the completely dissolved solution of the claimed composition.

2.2.2 As explained in the description of the patent in suit, detergency builders are commonly employed in granular fabric washing detergent compositions at levels up to 50%. However, there are a number of disadvantages related to the use of high levels of builders in detergent compositions. For example, in terms of weight ratio with respect to certain other ingredients such as surfactants, the use of builders beyond a certain level does not significantly increase the bleachable stain removal performance of the composition and reduces the formula space that might with advantage be filled by other components of more value to the stain removal performance capability of the composition (see paragraphs 2 and 3 of the patent in suit).

The technical problem underlying the invention thus is formulated in the patent in suit as the provision of

a granular detergent composition comprising a lower level of builder system than that conventionally employed, i.e. an amount of builder system not greater than that of the surfactant system, and showing an improved cleaning performance on everyday body soils, greasy soils and bleachable stains (see paragraphs 4 and 5).

The specific advantages indicated in paragraphs 6 to 9 of the patent in suit, i.e. the improvement of the stain removal performance of detergency enzymes and hydrophobic peracids as well as the reduction of formation of unsightly dark polyphenolic stains and of soaps formed from hardness ions and soils containing fatty acids are, in the Board's view, only specific aspects of the previously mentioned improved cleaning performance on everyday body soils, greasy soils and bleachable stains and thus represent technical advantages falling under the more general technical problem indicated above.

2.2.3 Both parties and the opposition division considered document (3) to represent the closest prior art.

The Board has no reason to deviate from this finding. Therefore, the Board takes also document (3) as the most suitable starting point for the evaluation of inventive step.

As regards the alleged technical advantage brought about by the claimed invention with regard to the compositions of document (3), it is undisputed that the composition of example II of document (3) represents an embodiment encompassed by the broader teaching of this

document and that this composition is the one disclosed in this document having the least technical differences with respect to the subject-matter of claim 1 according to the main request.

The Board remarks also that the builder system level of the composition of example II is not a singularity of this composition but similar builder levels are also contained in the compositions of examples VII, IX and example B bridging pages 41 and 42, all of them containing more surfactant system than builder system. Therefore, the Board cannot agree with the Appellant that the skilled person, by considering the teaching of document (3), would have disregarded or would have not given particular attention to this specific composition. To the contrary, the composition of example II is representative of the teaching of document (3) and, being the composition having the least technical differences with respect to the claimed subject-matter, is the composition over which the existence of a technical advantage has to be made credible.

2.2.4 It is undisputed that the composition of example II of document (3) includes amounts of a surfactant system, a builder system, a bleach system and detergency enzymes like claim 1 according to the main request and differs from the claimed subject-matter only insofar as it has a solution pH which is not specifically indicated but it could be above 9.8; therefore, it thus should be evaluated if this distinguishing technical feature contributes to the solution of the technical problem underlying the invention as identified in the patent in suit.

The experimental evidence submitted with the letter of 28 April 2003 during examination does not indicate which composition was tested. It is therefore not possible to assess whether the results reported in this evidence concern a composition according to claim 1 according to the main request. Since the Appellant was not able to clarify which composition had been used in these tests, this evidence cannot be taken as a proof of any alleged technical benefit.

During oral proceedings the Appellant maintained that the invention brought about an unexpected improved efficiency on the removal of bleachable polyphenolic stains. However, in the absence of any evidence that a composition according to claim 1 would be superior to a composition according to example II of document (3) in this respect, the Board can only conclude that this particular alleged technical benefit has also not been proven and has to be disregarded.

Since the alleged improved cleaning performance on everyday body soils, greasy soils and bleachable stains has not been substantiated by any credible evidence, the Board finds that, starting from the teaching of document (3), the technical problem underlying the invention can be formulated only as the provision of a further laundry detergent composition having similar cleaning performance.

The Board has no reason to doubt that a composition according to claim 1 has solved this technical problem.

2.2.5 Document (3) relates to laundry detergent compositions and therefore concerns the removal of tenacious soils

and stains from fabrics such as dirty motor oil, shoe polish, cosmetics or clay soil (see e.g. page 1, lines 13 to 19; page 42, lines 6 to 12); moreover, a composition like that of example II containing a bleach system is necessarily formulated for removing bleachable stains. The compositions of document (3) thus regard the removal of the same kind of soils and stains as discussed in the patent in suit.

Document (3) suggests explicitly that the disclosed detergent compositions can be formulated such that, during use in aqueous cleaning operations, the wash water will have a pH of between 7.5 and 11 (page 34, lines 10 to 12), which broader range encompasses necessarily the use of a composition having a solution pH like in claim 1 of the patent in suit. Document (3) teaches also that techniques for controlling pH at recommended usage levels include the use of buffers, alkalis or **acids** (page 34, lines 13 to 14).

Moreover, it was known from document (4) that the performance of a bleach system containing a bleach and a bleach activator which gives in situ generation of a peracid can be optimized or enhanced if the pH of the wash solution is initially, preferably, between 10 and 11 as provided by most detergent compositions to allow peracid formation and it is thereafter reduced to a value, more preferably, of 8.5 to 9.8, most preferably of 8.5 to 9.3 (see page 4, lines 36 to 54). According to the teaching of document (4) the lowering of the pH can occur by means of an acid release agent containing, for example, citric acid which agent can be part of the bleaching system product itself, for example as encapsulated acid or a blend thereof with a less

soluble carrier (see page 9, lines 12 to 17; page 9, line 47 to page 10, line 1). Document (4) also explicitly specifies that such a bleach system with an acid release agent can be incorporated into a conventional detergent composition (see page 11, lines 5 to 18).

Therefore, the skilled person, looking for possible modifications of a composition within the broader teaching of document (3) like that of example II, which already comprises a combination of citric acid with a less soluble compound like SKS-6, would have recognised the use of a bleach system in combination with an acid release agent as taught in document (4) as a possible modification which would not negatively influence the cleaning performance of the composition.

It thus would have been obvious for the skilled person, faced with the technical problem indicated above of providing a further laundry detergent composition having similar cleaning performance, to try the bleach system of document (4), which assures a good bleaching performance and an overall cleaning performance and operate within the same pH range indicated in document (3) (page 34, lines 10 to 13), in the composition of example II of document (3).

The Board is aware that the pH indicated in document (4) relates to the pH of the wash solution and not to the solution pH of a detergent composition. However, such a preferred wash pH range of 8.5 to 9.8 or the most preferred range of 8.5 to 9.3 can be reached by using conventional amounts of detergent composition such as, for example, amounts around 1.3 grams per litre as used

in one example of document (4) (see page 14, lines 4 to 8). Therefore, the solution pH of the used composition, i.e. the final pH of the completely dissolved composition including the acid release agent, would have to be at least partially within the solution pH range of claim 1 of 8.0 to 9.8. This has not been disputed by the Appellant.
Therefore, by applying the teaching of document (4) to the composition of example II of document (3), the skilled person would have also adjusted the solution pH of the composition within the range of claim 1 according to main request.

Since a bleach system with an acid release agent according to the teaching of document (4) is encompassed by the wording of claim 1 according to the main request, the skilled person would have arrived at the claimed subject-matter by modifying the composition of example II of document (3) in the light of the teaching of document (4).

Therefore, the Board concludes that the subject-matter of claim 1 according to the main request does not amount to an inventive step.

3. First auxiliary request

Claim 1 according to the first auxiliary request differs from claim 1 according to the main request only insofar as the solution pH of said composition is from 9 to 9.8.

Since document (4) teaches that the final wash pH for using the therein disclosed bleach system with acid

release agent is within the more preferred range of 8.5 to 9.8 and, most preferably, within the range of 8.5 to 9.3 (page 4, lines 42 to 43), which ranges would correspond for the same reasons given above (point 2.2.5) at least partially to a solution pH of the composition within the range of 9 to 9.8, the arguments put forward with respect to the main request apply *mutatis mutandis* to the first auxiliary request.

Therefore, the subject-matter of claim 1 according to the first auxiliary request lacks an inventive step.

4. Second and third auxiliary requests

4.1 Claim 1 according to the second auxiliary request differs from claim 1 according to the main request only insofar as it contains the wording "wherein any alkyl ethoxylate is a condensation product of aliphatic alcohol with 1-25 moles ethylene oxide," between the wordings "10 to 50% of a surfactant system," and "5 to 50% of a builder system...".

Since example II of document (3) contains a condensation product of a C_{12-13} alcohol condensed with 3 moles ethylene oxide, i.e. an alkyl ethoxylate as required in said claim 1, it discloses also this additional technical feature.

4.2 Claim 1 according to the third auxiliary request differs from claim 1 according to the main request only insofar as the builder system amounts to 15 to 35% of the composition.

Since example II of document (3) contains 22.2% of a builder system composed of zeolite, sodium citrate and citric acid/SKS-6, it discloses also this additional feature.

4.3 Therefore, the arguments put forward with respect to the main request apply *mutatis mutandis* also to these auxiliary requests.

The subject-matter of each claim 1 according to the second and third auxiliary requests thus lacks an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar: The Chairman:

G. Rauh P.-P. Bracke