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Datasheet for the decision of 8 July 2011

Case Number: T 0812/09 - 3.3.06

Application Number: 99958788.4

Publication Number: 1124929

IPC: C11D 3/39

Language of the proceedings: EN

Title of invention:
Bleach-containing detergent composition

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Solvay (Société Anonyme)
Henkel AG & Co. KGaA
Reckitt Benckiser (UK) Limited
UNILEVER N.V. / UNILEVER PLC

Headword:
Bleaching performance/P&G

Relevant legal provisions:
EPC Art. 123(2), 54(3)

Relevant legal provisions (EPC 1973):
EPC Art. 54(1)(2), 56

Keyword:
"Added subject-matter (main and first auxiliary requests): no"
"Novelty (main and first auxiliary requests): yes"
"Inventive step (main and first auxiliary requests): no - comparison not with respect to the distinguishing features of the invention; burden of proof on the Appellant"
"Added subject-matter (second to fifth auxiliary requests): yes - arbitrary selection of features"

Decisions cited:
T 0197/86, T 1511/07

Catchword:
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Case Number: T 0812/09 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 8 July 2011

Appellant: (Patent Proprietor)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 27 January 2009 revoking European patent No. 1124929 pursuant to Article 101(3)b EPC.**

Composition of the Board:

Chairman: E. Bendl
Members: L. Li Voti
J. Geschwind

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent No. 1 124 929 concerning bleach-containing detergent compositions.

II. In their notices of opposition the Opponents sought revocation of the patent on the grounds of Articles 100(a), (b) and (c) EPC 1973.

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

(1): WO 00/18875;
(23): US-A-5795854.

The Patent Proprietor submitted an experimental report as document (26) by fax dated 14 November 2008.

III. The Opposition Division found in its decision that all the then pending requests complied with the requirements of Article 83 EPC 1973 and Article 123(2) EPC but the claimed subject-matter lacked novelty or inventive step.

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

The Appellant submitted with the letter of 05 June 2009 six sets of claims according to the main request and first to fifth auxiliary requests.

Oral proceedings were held before the Board on 08 July 2011.

V. The set of claims according to the **main request** consists of 9 claims, the independent claim 1 of which reads as follows:

"1. A solid detergent composition comprising a bleach-sensitive component, a hydrogen peroxide source and one or more bleach activators wherein the hydrogen peroxide source is present in a first particulate component having a weight average particle size of from 700 microns to 1100 microns, preferably from 700 microns to 1000 microns, whereby at least 80% by weight of the particulate component comprising the hydrogen peroxide source has a particle size which is 60% to 140% of the weight average particle size, preferably of between 70% to 130% of the weight average particle size, and wherein at least one of the bleach activators is present in a second particulate component having a weight average particle size of from 600 microns to 1400 microns, preferably from 700 microns to 1100 microns."

Claim 1 of the set of claims according to the **first auxiliary request** differs from claim 1 according to the main request insofar as **all** (instead of at least one) of the bleach activator are present in a separate (instead of a second) particulate component having a weight average particle size of from 600 microns to 1400 microns.

Claim 1 of the set of claims according to the **second auxiliary request** differs from claim 1 according to the

first auxiliary request insofar as a hydrogen peroxide source is present in a separate (instead of a first) particulate component, **100%** by weight (instead of at least 80%) of said particulate component comprising the hydrogen peroxide source has a particle size which is **80% to 120%** (instead of 60 to 140%) of the weight average particle size without indicating any preferred range therefor, and, additionally, **at least 80% by weight of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns**.

Claim 1 of the set of claims according to the **third auxiliary request** differs from claim 1 according to the second auxiliary request insofar as the particulate component comprising the hydrogen peroxide source has a weight average particle size of from **700 to 1000** microns (instead of 700 to 1100 microns), the component comprising the bleach activator has a weight average particle size of **700 to 1100** microns (instead of 600 to 1400 microns), and **100%** by weight (instead of at least 80%) of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns.

Claim 1 of the set of claims according to the **fourth auxiliary request** differs from claim 1 according to the third auxiliary request insofar as it does no longer require that 100% by weight of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns.

Claim 1 of the set of claims according to the **fifth auxiliary request** differs from claim 1 according to the third auxiliary request insofar as 100% by weight of the component comprising the bleach activator has a

particle size in the range **425 to 1400** microns (instead of 300 to 1700 microns).

VI. The Appellant submitted in writing and orally in essence that

- the claims according to all requests complied with the requirements of Article 123(2) EPC;

- the claimed subject-matter was novel over documents (1) and (23);

- starting from document (23) the technical problem underlying the invention had to be seen in a further improvement of the bleaching performance;

- the experimental report (26) was a reasonable comparison with respect to the disclosure of document (23) and showed that such a technical problem had been convincingly solved by the claimed compositions;

- since document (23) did not contain any suggestion that the selection of a particular average particle size and particle size distribution of the hydrogen peroxide source in combination with a specific average particle size of the bleach activator could bring about a further improvement of the bleaching performance, the claimed subject-matter involved an inventive step.

VII. The four Respondents (Opponents) submitted in writing and orally *inter alia* that

- all requests did not to comply with the requirements of Article 123(2) EPC;

- the claimed subject-matter lacked novelty over documents (1) and (23);

- the experimental report (26) did not contain any comparison able to show an improvement of the bleaching performance linked to the distinguishing features of the claimed subject-matter; therefore, the alleged technical problem had not been credibly solved (see T 197/86, OJ 1989, 371);

- the technical problem underlying the invention thus had to be formulated simply as the provision of an alternative detergent composition comprising a hydrogen peroxide source, a bleach activator and bleach-sensitive ingredients;

- the claimed subject-matter thus lacked an inventive step in the light of the teaching of document (23).

VIII. The Appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the set of claims according to the main request or, in the alternative, on the basis of any of the first to fifth auxiliary requests, all of them submitted with letter of 05 June 2009.

IX. The Respondents request that the appeal be dismissed.

Reasons for the Decision

1. Main request

1.1 *Article 123(2) EPC*

The wording of claim 1 according to the **main request** consists substantially of the combination of the wordings of claims 1 and 5 of the application documents as originally filed with the exception that the hydrogen peroxide source and the at least one bleach activator are required to be present, respectively, in so-called first and a second particulate components, i.e. in separate particulate components.
Moreover it is clear from page 5, line 1, of the original description that the "average particle size" of the particulate components mentioned in claim 1 as originally filed is a "weight average particle size" as required in claim 1 of the main request.

The original description discloses that the particulate component containing the hydrogen peroxide source is preferably admixed to the other detergent components (page 3, lines 22 to 23) and that containing the bleach activator is preferably present as a separate admixed particle (page 11, lines 18 to 20).
Therefore, it is the Board's view that the original description teaches explicitly, as a preferred embodiment, the use of different particulate components containing the hydrogen peroxide source or the bleach activator.

Claim 1 according to the main request thus complies with the requirements of Article 123(2) EPC.

The Board is also satisfied that the remaining claims 2 to 9 according to the main request comply with the requirements of Article 123(2) EPC.

1.2 *Novelty*

1.2.1 Document (1), cited in virtue of Article 54(3) EPC, discloses in its examples I and II detergent compositions containing separate particulate components containing a hydrogen peroxide source such as percarbonate or perborate and a bleach activator such as NOBS, NACOBS or TAED. The passages of the description following the tables of examples I and II specify that the compositions exemplified, i.e. the total compositions of each example, have at least 90% by weight of the particles having a geometric particle diameter of from about 850 microns with a geometric standard deviation of from about 1.2.

Therefore, it would appear that these passages do not identify precisely the geometric particle diameter of the compositions and specify a possible lower limit only. However, even if one would interpret the given value to represent the geometric particle diameter of the exemplified compositions (and therefore a weight average particle size not far away from this value), this geometric particle diameter concerns explicitly only at least 90% by weight of each composition; therefore, the remaining 10% by weight of each exemplified composition can have any possible particle diameter.

This finding is supported from the rest of the description, teaching that the selected mean particle size diameter can be applied for the purpose of the invention to at least 50% of the total particles only (see page 4, line 25).

Hence the 10% by weight of each exemplified composition could comprise all of the bleach activator particulate components, which are present in amounts of less than 10% by weight of the total composition or great part of the hydrogen peroxide source component, present in varying amounts of 3 to 18% by weight of the total composition.

Therefore, document (1) does not contain a clear and unambiguous disclosure that the hydrogen peroxide source and the at least one bleach activator particulate components have a weight average particle size from 700 to 1100 microns and from 600 to 1400 microns, respectively, as required in claim 1 according to the main request.

1.2.2 Example II of document (23) discloses a detergent composition comprising bleach sensitive components (enzymes), a bleach activator in the form of a cylindrically shaped extrudate having a mean diameter of 700 microns, i.e. a weight average particle size in accordance with claim 1 of the main request, and sodium perborate monohydrate, i.e. a hydrogen peroxide source. However, the example does not disclose the particle size of the perborate component.

The description of document (23) discloses also a most preferred mean diameter for the bleach activator

extrudate of 550 to 750 microns (column 4, lines 39 to 40).

However, as regards the hydrogen peroxide source, it reports a specific average particle size for uncoated percarbonate only, a hydrogen peroxide source different from that of example II; moreover, the indicated range of average particle size is of 400 to 1200 and, preferably, of 400 to 600 microns, i.e. a range broader than or outside that of claim 1 according to the main request (see column 14, lines 18 to 20 of document (23)). No information is given with respect to the particle size distribution of the hydrogen peroxide source.

Furthermore, even though the description of document (23) discloses that the particle size of the bleach activator extrudate closely mirrors the size of the other detergent ingredients (column 4, lines 18 to 22) and this must be the case also for the composition of example II showing good activator stability and reduced particles segregation (column 19, lines 45 to 48), this disclosure does not necessarily mean that the hydrogen peroxide source present in such a composition has a weight average particle size of from 700 to 1100 microns and a particle size distribution as required in claim 1 according to the main request.

Therefore, document (23) does not contain any clear and unambiguous disclosure of a hydrogen peroxide source particulate component with a weight average particle size and a particle size distribution as required in claim 1 of the main request.

1.2.3 The Board thus concludes that the subject-matter of claim 1 according to the main request is novel over the disclosures of documents (1) and (23).

1.3 *Inventive step*

1.3.1 The invention of claim 1 relates to a solid detergent composition comprising a bleach sensitive component as well as two particulate components containing a hydrogen peroxide source and a bleach activator, respectively.

According to the description of the patent in suit it was found that the bleaching performance of detergent compositions incorporating a hydrogen peroxide source and a bleach activator is not always satisfactory after storage, even when the bleach is stable, and can vary from one batch of the product to another (paragraph 12 of the patent in suit).

Therefore, the technical problem underlying the invention indicated in the description concerns *inter alia* the maintenance of a satisfactory bleaching performance after storage.

1.3.2 All parties chose document (23) as the most suitable starting point for the evaluation of inventive step.

In fact, document (23) concerns detergent compositions containing bleach sensitive ingredients as well as a hydrogen peroxide source and a bleach activator in separate particulate components and aiming at providing improved stability and performance (see column 1, lines

6 to 9 in combination with column 14, lines 46 to 50; column 19, lines 45 to 48).

Therefore, the Board takes also document (23) as starting point for the evaluation of inventive step.

1.3.3 The invention of document (23) already provided a detergent composition having improved bleaching performance and, in particular, an increased stability and reduced segregation of the bleach activator component (column 2, lines 61 to 66), which technical effects are also considered in the patent in suit to be responsible for the maintenance of a satisfactory bleaching performance after storage (see paragraphs 13 and 14 of the patent in suit).
Therefore, document (23) had already solved the technical problem addressed to in the patent in suit.

The Appellant submitted that the claimed subject-matter solved the technical problem of improving the bleaching performance of the products known from document (23).

It remains thus to evaluate if the combination of a bleach activator having the selected average particle size with the distinguishing feature of claim 1 according to the main request, i.e. the weight average particle size and particle size distribution of the hydrogen peroxide source particulate component (see point 1.2.2 above), brings about convincingly an improved bleaching performance with respect to the products disclosed in document (23).

The patent in suit does not contain any comparative tests. Document (26), already submitted before the

department of first instance, contains an experimental report concerning four compositions having the same hydrogen peroxide particulate component having allegedly a weight average particle size and a particle size distribution as required in the patent in suit and a bleach activator particulate component having four different particle sizes, two being within and two without the scope of claim 1.
Therefore, this experimental report does not contain any comparison with a product not having the required particle size characteristics of the hydrogen peroxide source, i.e. with respect to the only technical features distinguishing the claimed subject-matter from the products disclosed in document (23). For this reason document (26) cannot be considered to represent evidence for the alleged improved bleaching performance (see also T 197/86, headnote).

The Board remarks also that the Opposition Division had found in its decision that it was impossible to asses any technical effect resulting from the distinguishing technical features of the claimed invention (see point 6.4.2 of the decision under appeal). Therefore, the burden of proof lay on the Appellant to submit evidence that the alleged technical improvements had been effectively realized with respect to the closest prior art.

Since no further evidence was submitted by the Appellant, the alleged technical improvement has to be disregarded in the formulation of the technical problem.

The Board thus finds that the technical problem underlying the claimed invention can only be defined as

the provision of a further detergent composition containing bleach sensitive ingredients as well as bleach activator and hydrogen peroxide source particles.

The Board has no doubt that the subject-matter of claim 1 solves this technical problem.

1.3.4 Document (23) explicitly suggests closely mirroring the particle size of the bleach activator to that of the other detergent components (column 4, lines 18 to 22). Therefore, it would have been obvious for the skilled person to select for the other detergent components of example II, including a hydrogen peroxide source component, an average particle size so close as possible to that used for the bleach activator, for example, a weight average particle size of 700 microns as the bleach activator itself, a value according to claim 1 of the main request.

The Board reiterates in this respect that a preferred average particle size of 400 to 600 microns, below 700 microns, is suggested in document (23) with regard to uncoated percarbonate only (column 14, lines 18 to 20) and does not concern other hydrogen peroxide sources as used in said example II.

Moreover, it would have been also obvious for the skilled person to select a particle size distribution so close as practicable to the desired weight average particle size value in order to maximize the desired mirroring of the particle size of all components.

Therefore, it would have been obvious for the skilled person to select for the hydrogen peroxide source of

example II a particle size distribution within the broad range required by claim 1 according to the main request (at least 80% by weight of this particulate component having a particle size which is 60% to 140% of the weight average particle size).

The Board thus concludes that it would have been obvious for the skilled person to arrive at a detergent composition having all the features of claim 1 by following the teaching of document (23).

The subject-matter of claim 1 thus does not involve an inventive step.

2. First auxiliary request

2.1 *Article 123(2) EPC*

Claim 1 of the set of claims according to the **first auxiliary request** differs from claim 1 according to the main request insofar as **all** (instead of at least one) of the bleach activator are present in a separate (instead of a second) particulate component having a weight average particle size of from 600 to 1400 microns.

Since page 11, last two lines, of the original application documents specify that, more preferably, all of the bleach activator are present in one or more particulate components having the specified weight average particle size, the Board finds that the amendment contained in claim 1 according to the first auxiliary request is supported by the original

application documents for the reasons given in point 1.1 above.

2.2 *Inventive step*

Since all of the bleach activator present in the composition of example II of document (23) have the particle size required in said claim 1 (point 1.2.2 above), the subject-matter of said claim 1 lacks an inventive step for the same reasons given above.

3. Second auxiliary request

3.1 *Article 123(2) EPC*

Claim 1 of the set of claims according to the **second auxiliary request** differs from claim 1 according to the first auxiliary request insofar as a hydrogen peroxide source is present in a separate (instead of a first) particulate component, **100%** by weight (instead of at least 80%) of said particulate component comprising the hydrogen peroxide source has a particle size which is **80% to 120%** (instead of 60 to 140%) of the weight average particle size without indicating any preferred range therefor, and, additionally, **at least 80% by weight of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns**.

The Board remarks that the amended features indicated above represent the most preferred particle size distribution for the hydrogen peroxide source particulate component and one of the preferred (not the most preferred) particle size distribution for the bleach activator particulate component reported in the

original application documents (see page 4, lines 1 to 5 and page 12, lines 1 to 3).

Moreover, these features are combined in claim 1 (see point V above) with the broadest average particle size range for the hydrogen peroxide source, which is reported in the description only in the "summary of the invention" (page 3, lines 11 to 12) and is not repeated in the passage belonging to the "detailed description of the invention" (last six lines of page 3) preceding that indicated above with regard to the amended particle size distribution, and with one preferred value (not the most preferred one) for the bleach activator weight average particle size (page 11, line 25).

Therefore, in addition to the preferred features already discussed in points 1.1 and 2.1 above, claim 1 contains a selection of four different groups of features, the two average particle sizes and the two particle size distributions, which have different preferential rankings in the original application documents, one being a most preferred feature, two of them representing one out of various possible preferred features, and one representing the broadest possible range indicated.

An explicit combination of these features cannot be found anywhere in the original application documents, which also do not state or suggest that all the not preferred, less preferred and most preferred features can be combined arbitrarily.

Therefore, the combination of features of said claim 1 amounts to a selection which is not disclosed in the original application documents and extends beyond the content of the application as filed (see also T 1511/07, point 2.1 of the reasons).

The second auxiliary request thus contravenes the requirements of Article 123(2) EPC.

4. Third auxiliary request

4.1 *Article 123(2) EPC*

Claim 1 of the set of claims according to the **third auxiliary request** differs from claim 1 according to the second auxiliary request insofar as the particulate component comprising the hydrogen peroxide source has a weight average particle size of from **700 to 1000** microns (instead of 700 to 1100 microns), the component comprising the bleach activator has a weight average particle size of **700 to 1100** microns (instead of 600 to 1400 microns), and **100%** by weight (instead of at least 80%) of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns.

Said claim (see point V above) combines one of the preferred values (not the most preferred one) for the weight average particle size of the hydrogen peroxide source particulate component (see page 3, second line from the bottom) with its most preferred particle size distribution (page 4, lines 1 to 5), the most preferred bleach activator weight average particle size (page 11, third line from the bottom) and a particle size distribution for the bleach activator component which

combines the most preferred percentage of particles (page 12, line 2) with one of the preferred (not the most preferred one) particle size range (page 12, line 3).

Therefore, for the same reasons given in point 3.1 above, the combination of features of said claim 1 amounts to an arbitrary selection of preferred and most preferred features which is not disclosed in the original application documents and extends beyond the content of the application as filed.

Therefore, claim 1 according to the third auxiliary request contravenes the requirements of Article 123(2) EPC.

5. Fourth auxiliary request

5.1 *Article 123(2) EPC*

Claim 1 of the set of claims according to the **fourth auxiliary request** differs from claim 1 according to the third auxiliary request insofar as it does no longer require that 100% by weight of the component comprising the bleach activator has a particle size in the range 300 to 1700 microns.

Therefore, this claim still contains part of the combination of preferred and most preferred features of claim 1 according to the third auxiliary request, which combination is not reported or suggested explicitly anywhere in the original application documents.

Therefore, also in this case the combination of features amounts to an arbitrary selection which is not disclosed in the original application documents and extends beyond the content of the application as filed.

Claim 1 according to the fourth auxiliary request thus contravenes the requirements of Article 123(2) EPC.

6. Fifth auxiliary request

6.1 *Article 123(2) EPC*

Claim 1 of the set of claims according to the **fifth auxiliary request** differs from claim 1 according to the third auxiliary request insofar as 100% by weight of the component comprising the bleach activator has a particle size in the range **425 to 1400** microns (instead of 300 to 1700 microns).

Therefore this claim combines one of the preferred values (not the most preferred one) for the weight average particle size of the hydrogen peroxide source particulate component (see page 3, second line from the bottom) with its most preferred particle size distribution (page 4, lines 1 to 5), the most preferred bleach activator average particle size (page 11, third line from the bottom) and the most preferred particle size distribution for the bleach activator (page 12, lines 2 to 4).

Also the combination of all features of this claim is nowhere disclosed or suggested in the original application documents. Therefore, for the same reasons put forward above this claim amounts also to an

arbitrary selection of features which is not disclosed in the original application documents and extends beyond the content of the application as filed.

Consequently, the subject-matter of this claim does not comply with the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano E. Bendl