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D E C I S I O N
of 8 June 2004

Case Number: T 0058/03 - 3.3.6

Application Number: 97901008.9

Publication Number: 0882126

IPC: C11D 17/06

Language of the proceedings: EN

Title of invention:
Process for the production of a detergent composition

Patentee:
UNILEVER PLC, et al

Opponents:
Henkel KGaA
The Procter & Gamble Company

Headword:
Production of detergent composition/UNILEVER

Relevant legal provisions:
EPC Art. 54, 114(2), 111(1)

Keyword:
"Novelty (yes): not all features disclosed in combination"
"Admissibility of late filed documents (no): at first sight no more relevant than previously cited prior art"
"Remittal (yes): inventive step to be discussed at two instances"

Decisions cited:
T 0399/89, T 1002/92, T 0869/98, T 0412/91, G 0009/91

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0058/03 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 8 June 2004

Appellants: (Proprietors of the patent)	UNILEVER PLC Unilever House Blackfriars London EC4P 4BQ (GB) and UNILEVER N.V. Weena 455 NL-3013 AL Rotterdam (NL)
Representative:	Elliott, Peter William Unilever PLC Patent Department Colworth House Sharnbrook Bedford MK44 1LQ (GB)
Respondent(s): (Opponent 01)	Henkel KGaA VTP (Patente) D-40191 Düsseldorf (DE)
Representative:	-
(Opponent 02)	The Procter & Gamble Company One Procter & Gamble Plaza Cincinnati, Ohio 45202 (US)
Representative:	Lawrence, Peter Robin Broughton GILL JENNINGS & EVERY Broadgate House 7 Eldon Street London EC2M 7LH (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 14 November 2002 revoking European patent No. 0882126 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: P. Krasa
Members: L. Li Voti
U. J. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent no. 0 882 126, concerning a process for the production of a detergent composition.

II. In their notices of opposition both Opponents (Respondents 01 and 02) sought revocation of the patent on the grounds of Article 100(a) EPC, in particular for lack of novelty and inventive step of the claimed subject-matter.

The following documents were cited *inter alia* in support of the oppositions:

(1): EP-A-0351937

(4): EP-A-0340013

(6): GB-A-2166452

(12):WO-A-97/22685

(20):J. Am. Oil Chem. Soc., Jan. 1978, pages 134 and 138 to 140

(21):EP-A-0420317

In its decision, the Opposition Division found *inter alia* that

– the claimed process requires a first mixing/granulation step in the presence of a

liquid binder which can be added as a separate component or contained within the particulate starting material as moisture or water of hydration;

– the second mixing step of the claimed process is carried out in a "very low shear mixing zone", this term having to be interpreted as referring to a mixing step carried out at a lower shear rate than the first mixing step;

– the finely divided crystalline sodium aluminosilicate used as flow aid in document (1) has a bulk density below 700 g/l;

– claim 1 according to the main request lacked thus novelty over documents (1) or (4).

The inventive step of the claimed subject-matter was not discussed in this decision.

III. Claim 1 of the set of amended claims according to the main request, filed by the Proprietors under cover of a letter dated 2 July 2001, consisted in a combination of claims 1 and 5 as granted and read as follows:

"1. A process for the production of a detergent composition or component having a bulk density of less than 700 g/l which does not comprise a spray-drying step and which process comprises mixing a particulate starting material with a liquid binder in a mixer granulator to form granules wherein the starting material and/or binder comprises a non-soap detergent active or a precursor thereof feeding the said granules

to a very low shear mixing zone and contacting the granules with a particulate material having a bulk density of not more than 700 g/l to produce a detergent composition or component having a bulk density of less than 700 g/l wherein 5-65% by weight of the low bulk density particulate material based on the composition is added."

Dependent claims 2 to 9 related to particular embodiments of the claimed process.

IV. An appeal was filed against this decision by the Patent Proprietors (Appellants).

Oral proceedings were held before the Board on 8 June 2004.

During oral proceedings Respondent 02 argued for the first time in the appeal proceedings that the claimed subject-matter lacked novelty also in the light of documents (20) and (21).

V. As regards novelty of the claimed subject-matter the Appellants submitted in writing and orally that:

– the claimed process requires in a first step that a liquid binder is added as a separate component to a mixer/granulator and in a second step that another particulate having a bulk density of no more than 700 g/l is contacted with the granulated product of the first mixing step in a mixing zone having a lower shear than the first one;

– flow aids, such as finely divided zeolite, can be assumed to have a bulk density below 700 g/l;

– the process disclosed in document (1) leads to the formation of products having a bulk density above 700 g/l and fails to disclose the addition of at least 5% by weight of a second particulate having a bulk density of no more than 700 g/l, at least a part of which is added to the second mixing zone of lower shear, in a process having as a final product a detergent composition having a bulk density below 700 g/l;

– the process disclosed in document (4) either does not comprise the second step required in the patent in suit or leads to products having a greater bulk density;

– the process of document (6) requires in a first step the separate use of a kneader and a mill in which the granulation occurs without further addition of a liquid binder; therefore it does not involve the mixing of a particulate starting material with a liquid binder in a mixer/granulator as required in the patent in suit;

– the process of document (12) suggests the addition of a flow aid to the first mixing step as also shown in example IX and not to the second mixing zone of lower shear and thus it does not disclose the addition of a second particulate having a bulk density of no more than 700 g/l in the required amounts to the second step of the claimed process;

– documents (20) and (21) do not disclose at first sight a process comprising all the features of that of the patent in suit;

– therefore, none of the cited documents discloses a process possessing in combination all the features of that claimed in the patent in suit.

VI. As regards novelty of the claimed subject-matter the Respondents and Opponents submitted in writing and orally *inter alia* that:

– the wording of claim 1 includes a first mixing step wherein the liquid binder can be alternatively present either as a separate component or within the particulate starting material, e.g. as moisture;

– the second mixing step of the process of claim 1 includes contacting the material produced in the first mixing step with a particulate material having a bulk density of no more than 700 g/l which can be, for example, a flow aid or can derive from the recycling of the final product;

– since different methods of measuring bulk density would lead to diverging values for the same product the value of bulk density of the final product indicated in claim 1 is not significant in the absence of the indication of the method of measurement used for its calculation;

– document (1) discloses in claims 1, 12 and 14 a process similar to that of the patent in suit and suggests to add a liquid binder to the first mixing step; this document teaches furthermore that the final bulk density can be regulated by the residence time in the first mixer and thus it teaches how to prepare products having a bulk density according to the patent in suit;

– document (4) discloses a process similar to that of document (1) and its example 10 (page 9) discloses a final product having a bulk density of 714 g/l prepared by a process having otherwise all the features of that of the patent in suit; since the patent in suit does not indicate the method of measurement used for calculating the bulk density of the final product and different known methods of measurement would lead to different results, the bulk density of the product of example 10, calculated by a different method of measurement would fall under the wording of claim 1 of the patent in suit;

– experimental nos. 4 and 5 of example 2 of document (6) disclose a process having all the features of the claimed subject-matter and in which the liquid binder used in the granulation step is contained within the particulate starting material (page 14, lines 56 to 63 and page 15, Table 3);

– document (12) discloses a process using the same type of mixers as the patent in suit and suggesting the addition of 0.12 to 15% of flow aids which the skilled person would add last in

the process, i.e. to the second mixing zone of lower shear, in order to exploit their activity on the surface of the final product; moreover this document also suggests to recycle fines into the second mixing zone (page 4, line 14 to page 5, line 31; page 11, lines 7 to 12; page 11, last paragraph to page 12, first paragraph);

– document (20) discloses a process wherein a detergent composition granulated as required in the first step of the patent in suit and having a bulk density of between 600 and 900 g/l is mixed at a ratio of 1:1 with a low bulk density spray-dried powder (page 140, left column last full paragraph and right column, first full paragraph);

– document (21) discloses a process for the preparation of detergent powders having a bulk density of at least 550 g/l comprising a first granulation step as in the patent in suit, a second mixing step in a mixer having a lower shear and involving the addition of 0.1 to 40% of zeolite to the second mixing zone (claims 1 and 6 and page 5, line 55 to page 6, line 3);

– the claimed subject-matter lacks thus novelty over documents (1), (4), (6), (12), (20) or (21).

As regards documents (20) and (21) which had been cited for the first time against novelty during oral proceedings, Respondent 02 submitted that documents (20) and (21) had already been cited against novelty during the proceedings of first instance and thus should be admitted into the proceedings.

VII. The Appellants request that the decision of first instance be set aside and that the patent be maintained on the basis of the main request filed during the first instance proceedings under cover of a letter of 2 July 2001.

The Respondents request that the appeal be dismissed or alternatively that the case is remitted to the first instance for further prosecution.

Reasons for the Decision

1. *Main request*

1.1 *Interpretation of Claim 1*

1.1.1 The subject-matter of claim 1 relates to a process for the production of a detergent granulate having a bulk density of less than 700 g/l which does not comprise a spray-drying step.

The claimed process requires in a first step "mixing a particulate starting material **with** a liquid binder in a mixer granulator to form granules".

In the Board's judgement, this wording would be understood by the skilled person as requiring the presence of two distinct components in this mixing step, i.e. a starting particulate material and a liquid binder which is not part or derived from this starting particulate material, and thus that a liquid binder is

to be added to the mixer separately from the particulate starting material.

The Respondent and the first instance considered the process of claim 1 to include the possibility that the liquid binder be contained within the particulate starting material.

The Board accepts that moisture can be present within the particulate starting material. However, such particulate starting material (containing moisture) has to be mixed, according to the clear wording of the claim, with a liquid binder as a second, independent component.

An inspection of the description of the patent in suit corroborates this view. It teaches in fact that any type of liquid binder can be used (page 3, lines 40 to 44) but it nowhere suggests that the liquid binder intended in claim 1 can solely consist of, e.g., moisture contained in the starting particulate material.

1.1.2 In a second step the granulate obtained in the first step has to be fed to a "very low shear" mixing zone and contacted with a particulate material having a bulk density of no more than 700 g/l.

As regards this second step of the process the Board finds that the wording of the claim must be interpreted as requiring that the granulate resulting from the first step must be brought into contact with a second particulate component having a bulk density of no more than 700 g/l and that, as agreed by all parties during

oral proceedings, this mixing zone is run at a lower shear than the first mixing zone.

The composition of this second particulate component is not specified in the claim.

The Board finds therefore that this process step encompasses contacting the granulate from the first mixing step with a second particulate component which can also be of similar composition and even of similar bulk density as the first one. Therefore this particulate material can be a known flow aid, which as agreed by the Appellants during oral proceedings have usually a bulk density below 700 g/l, or part of the final product (e.g. fines) of the claimed process screened and recycled back into the second mixing step.

1.1.3 The amount of 5 to 65% of the second particulate component amounts to its content on the total of the composition; this means that part of it can also be added to the first step of the process (see also page 3, lines 13 to 18 of the patent in suit), i.e. being e.g. part of the particulate starting material.

1.1.4 The Respondents have put forward that the final value of bulk density of the obtained product is not significant since the patent in suit does not indicate the method of measurement used for its calculation and different known methods of measurement would lead to diverging values of bulk density.

It cannot be disputed that there existed different methods of measurement of bulk density at the priority date of the patent in suit and that different methods

would lead to diverging values of bulk density for the same product. This, however, does not mean that the value of bulk density reported in the attacked claims without the indication of the used method of measurement is not significant. On the contrary, claim 1 has to be interpreted as encompassing all processes of preparation which would lead to a value of bulk density as indicated in the claim by using one method of measurement arbitrarily selected from those currently used in the specific technical field (see e.g. T 399/89, unpublished in OJ EPO, point 4.3 of the reasons for the decision).

As regards novelty of the claimed subject-matter it is thus up to the parties objecting novelty to provide evidence that the prior art discloses a process leading to products having undoubtedly such a bulk density when using one method of measurement arbitrarily selected from those currently used in the specific technical field.

1.2 Novelty

1.2.1 Document (1) discloses in claims 1, 12 and 14 a process wherein a detergent composition of at least 650 g/l is prepared by granulating a starting particulate material comprising a non-soap detergent active and mixing thereto 3 to 12% of a finely divided aluminosilicate. As taught in the description, the first step of the process involves in a preferred embodiment the use of a separate liquid binder (page 5, lines 18 to 21) and is thus identical with that of the patent in suit. The second step is carried out in a mixer running at a lower shear (page 5, lines 41 to 44); the finely

divided aluminosilicate is moreover a known flow aid and has a bulk density below 700 g/l as agreed upon by the Appellants.

However, the process of example 2(b) wherein such a zeolite is used at an amount in accordance with the patent in suit, i.e. 5% by weight, leads to a bulk density of 780 g/l and the only exemplified process leading to a bulk density below 700 g/l is that of example 3 using only 1% of an amorphous aluminosilicate in the second mixing zone.
The Board concludes therefore that simply following the above mentioned process steps does not lead automatically to a final bulk density below 700 g/l since this is apparently affected by numerous various factors, e.g. by the particular components used in the process as well as by the used conditions as suggested e.g. on page 5, lines 11 to 14 of the description, teaching that the bulk density can be adjusted by controlling the residence time in the first mixer.

Therefore, the Board concludes that the final bulk density of at least 650 g/l mentioned in this document does not identify a lower limit of bulk density that can be achieved under any of the explicitly described embodiments, e.g. that of claim 14, and that this document does not contain any explicit disclosure of a process leading to a bulk density below 700 g/l by using at least 5% of crystalline zeolite as flow aid.

Therefore, document (1) does not disclose all the features of the process of claim 1 in combination.

1.2.2 Document (4) describes a process similar to that of document (1) (see claims 1, 7, 12 and 14). Similarly to document (1) all the examples of this document describe a process leading to a product having a bulk density above 700 g/l. This document does not contain any explicit disclosure of a process leading to a bulk density below 700 g/l by adding at least 5% of crystalline zeolite to the process.

The Respondents have put forward that example 10, disclosing a process differing apparently from the claimed one only insofar as it leads to a product having a bulk density of 712 g/l, is to be considered as anticipating the claimed subject-matter since the final bulk density of the product of example 10 could be below 700 g/l by using a different arbitrary method of measurement for calculating its bulk density.

The Board notes that it is not disputed that different methods of measuring bulk density would lead to diverging values for the same product; however, the burden of proof lies in this case on the party raising the objection, i.e. on the Respondents.

The Respondents have, however, not brought any evidence that the products of example 10 or of any other example of document (4) would have a bulk density below 700 g/l by using any other currently used method of measuring bulk density (see also point 1.1.4 above).

Therefore document (4) does not disclose all the features of claim 1 in combination.

1.2.3 Document (6) describes a process leading to a product having a bulk density below 700 g/l (see e.g. Table 3 on page 15, experimental nos. 4 and 5). This process involves a first neutralization step, including the addition of a liquid binder, in a kneader and the granulation of the neutralized product in a mill followed by a further mixing step in a rotary mixer (see page 10, lines 41 to 45 and 53 to 57 and page 14, lines 55 to 58).

Therefore, the granulation step occurs in the presence of a particulate material already containing a liquid binder and the disclosed process does not comprise the step of adding a liquid binder as a separate component to a mixer granulator.

The Board concludes therefore that document (6) does not anticipate the claimed subject-matter.

1.2.4 Document (12) discloses a process leading to a product of a bulk density below 700 g/l comprising a first mixing step as claimed in the patent in suit and a second step carried out in a mixing zone of lower shear (see claims 1 and 6). This document also suggests the addition of a flow aid to the **first step** of the process (see paragraph bridging pages 4 and 5 and example IX). The amount of flow aid can be of 0.12 to 15% (page 11, lines 11 to 12).

The Respondents put forward that a skilled person would have added the flow aid to the second mixing zone in order to distribute this component on the surface of the final product for better performing its function and that this step belonged to the common general

knowledge of the notional skilled practitioner in this technical field.

The Board agrees that it was certainly known to the skilled person that a flow aid could be added last in the granulation process in order to provide the final granulate with a coating of the flow aid. However, document (12) does not contain any explicit teaching of adding the flow aid to the second low shear mixing zone wherein only part of the remaining liquid binder is added (page 5, lines 14 to 16); on the contrary it suggests its addition to the first mixing zone, as explained above.

Moreover, the Respondents have not brought any evidence that the addition of the flow aid last in the process would have been considered as the only possibility envisaged by the skilled practitioner and that the explicit teaching of document (12) to add the flow aid to the first step of the process would have been understood to be wrong and thus disregarded by the skilled person (see T 412/91, unpublished in OJ EPO, point 4.6 of the reasons for the decision).

Therefore, the Board concludes that document (12) does not contain any teaching of adding the flow aid into the low shear mixing zone.

Document (12) teaches also that fines can be recirculated into the low shear mixing zone (last paragraph of page 11 and first paragraph of page 12). However, it fails to indicate the quantity of fines recirculated into the second zone.

Therefore, the Board concludes that also this document does not disclose all the features of the claimed process in combination and that the subject-matter of the claims is novel over documents (1), (4), (6) or (12).

1.3 Admissibility of late filed documents

1.3.1 Documents (20) and (21) have been additionally cited by Respondent 02 against the novelty of the claimed subject-matter during oral proceedings.

Both documents have been cited for the first time at first instance in the letter of 5 September 2002 (page 6, point 4.1), i.e. long after expiration of the opposition period according to Article 99(1) EPC, document (21) having been cited against the novelty of the claimed subject-matter (pages 7 and 8, point 5.4) and document (20) only against inventive step (page 12, point 6.19).

None of these documents has been discussed in the decision of first instance.

Furthermore, these documents have not been cited against novelty in the written proceedings before the Board. In particular, document (20) has not been cited at all and document (21) was only cited for discussing the interpretation of the wording "very low shear mixing zone" (see Respondent 02's letter of 28 July 2003, paragraph bridging pages 2 and 3). The novelty objection raised at first instance on the basis of document (21) had not been reiterated in any of the Respondents' letters.

Therefore, as regards the novelty issue, they cannot be considered to be automatically part of the appeal proceedings, the main purpose of which is to give to the losing party the possibility of challenging the decision of the Opposition Division on its merits (see G 9/91, OJ EPO 1993, 408).

1.3.2 It is established case law of the Boards of Appeal of the EPO that late filed evidence should only be admitted at the appeal stage if it can be considered at first sight to be more relevant than the evidence previously relied upon and to be prejudicial to the maintenance of the patent (see, e.g. T 1002/92, OJ EPO 1995, 605, point 3.4 and 3.5 of the reasons).

Respondent 02 put forward during oral proceedings that document (20) discloses a process wherein a detergent composition granulated as required in the first step of the patent in suit and having a bulk density of between 600 and 900 g/l is mixed at a ratio of 1:1 with a low bulk density spray-dried powder (page 140, left column, last full paragraph and right column, first full paragraph).

The Board notes, however, that document (20) does not appear at first sight to indicate the bulk density of the product obtained by mixing the granulated powder with the spray-dried powder (see e.g. page 140, right column, third full paragraph and page 139, Table II).

Document (21) discloses according to the Respondent's submissions a process for the preparation of detergent powders having a bulk density of at least 550 g/l

comprising a first granulation step as in the patent in suit, a second mixing step in a mixer having a lower shear and involving the addition of 0.1 to 40% of zeolite to the second mixing zone (claims 1 and 6 and page 5, line 55 to page 6, line 3).

The Board notes that document (21), similarly to what has been explained above in regard to documents (1) and (4) in points 1.2.1 and 1.2.2 above, does not appear at first sight to disclose a process wherein a final bulk density below 700 g/l is obtained by adding at least 5% of zeolite to the second mixer.

Therefore both documents (20) and (21) cannot be considered to be at first sight novelty destroying or more relevant than documents (1), (4), (6) or (12).

The Board concludes thus that the late filed documents (20) and (21) have not to be admitted into the appeal proceedings.

2. *Remittal*

Although the claimed subject-matter has been found not to lack novelty, it still has to be assessed whether the claims satisfy the other requirements of the EPC, in particular whether an inventive step is involved.

In the present case the decision under appeal was based on the ground of lack of novelty only.

Inventive step of the claimed subject-matter was not discussed neither in the decision under appeal nor in the written submissions of the parties during the appeal proceedings.

Since all parties have agreed during oral proceedings that it was not appropriate under these circumstances to discuss inventive step and asked for the case to be remitted to the first instance for further prosecution, the Board finds that in order not to deprive the parties of the opportunity to argue the remaining issues at two instances, it is appropriate to make use of its powers under Article 111(1) EPC to remit the case to the department of first instance for further prosecution (see T 869/98, unpublished in OJ EPO, point 4 of the reasons for the decision).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

G. Rauh P. Krasa