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D E C I S I O N
of 5 April 2000

Case Number: T 0033/96 - 3.3.6

Application Number: 89200587.7

Publication Number: 0337523

IPC: C11D 3/18

Language of the proceedings: EN

Title of invention:

Detergent powders and process for preparing them

Patentee:

UNILEVER N.V., et al

Opponent:

Henkel Kommanditgesellschaft auf Aktien

Headword:

Paraffin oil/UNILEVER

Relevant legal provisions:

EPC Art. 54, 56, 83, 84, 123

Keyword:

"Insufficiency of disclosure (inadmissible ground of appeal);
ground not raised as opposition ground"

"Novelty - main request (yes); auxiliary request (yes)"

"Inventive step - main request (no): problem not solved by all
the embodiments of claim 1; - auxiliary request (yes)"

Decisions cited:

G 0009/91

Catchword:

-



Case Number: T 0033/96 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 5 April 2000

Appellant: Henkel
(Opponent) Kommanditgesellschaft auf Aktien
TFP/Patentabteilung
D-40191 Düsseldorf (DE)

Representative: -

Respondent: Unilever N.V.
(Proprietor of the patent) Weena 455
NL-3013 AL Rotterdam (NL)

Representative: Elliott, Peter William
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 21 November 1995
rejecting the opposition filed against European
patent No. 0 337 523 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. N. C. Raths
C. Rennie-Smith

Summary of Facts and Submissions

- I. This appeal lies from the Opposition Division's decision to reject the Appellant's opposition against European patent 0 337 523 relating to a spray-dried detergent powder.
- II. The opposition was based on Article 100(a) EPC in particular on lack of novelty and inventive step. In the course of the opposition proceedings, the Appellant relied on the following documents:
- (1) DE-A-28 57 155
 - (2) *Robert N. Wenzel*, "Resistance of solid surfaces to wetting by water", *Industrial and Engineering Chemistry*, vol. 28 (8), 1936, 988-994,
 - (3) *Judson L. Ithrig, David Y. F. Lai*, "Contact angle measurement", *Journal of Chemical Education*, vol. 34 (4), 1957, 196-198,
 - (4) *Commercial Waxes*, A symposium and compilation edited by H. Bennett, Chemical Publishing Co., Inc., New York, 2nd edn, 1956, 193,
 - (5) *Industrial Waxes*, vol. I, Natural & Synthetic Waxes, H. Bennett, Chemical Publishing Co., Inc., New York, 1975, 89,
 - (6) DE-A-34 00 008,
 - (7) DE-A-25 00 411.

In the notice of opposition, independent Claims 1 and 7

were opposed on the ground that their subject-matter lacked novelty with respect to document (1) in the light of documents (2) to (5) or, alternatively, lacked an inventive step with respect to documents (1) and (6) or (1) and (7).

In its decision the Opposition Division found that on the one hand neither citation (1) nor citation (6) disclose that paraffin wax may improve the dispersing properties of the solid detergent composition and that on the other hand, citations (6) and (7) are both concerned with tripolyphosphate built detergent compositions not comprising zeolite. The Opposition Division concluded that, therefore, the claimed subject-matter involved an inventive step.

- III. In the grounds for appeal, the Appellant (Opponent) submitted in essence that the subject-matter of the two independent Claims 1 and 7 was anticipated by document (1) as was the subject-matter of the dependent Claims 2 to 4, and 8. It also submitted that the subject-matter of Claims 5 to 13 did not involve an inventive step, in particular in view of documents (6) and (7), respectively.
- IV. In the statement setting out the grounds of appeal, the Appellant raised also the objection of insufficiency of disclosure under Article 83 EPC.
- V. During oral proceedings which took place on 5 April 2000, the Respondent filed three sets of Claims designated as amended main request, amended first auxiliary request and amended second auxiliary request.

Claims 1 and 7 of the main request consisting of 13

claims read:

"1. A spray-dried detergent powder being substantially free from inorganic phosphate and comprising at least 5 % by weight of one or more anionic surfactants, from 20 to 80 % by weight of crystalline or amorphous aluminosilicate detergency builder, no more than 10 % by weight of alkali metal silicate, and from 0.1 to 6 % by weight of a paraffin wax which is water-insoluble and substantially insoluble in anionic and nonionic surfactants and has a melting point within the range of from 30 to 100°C and a contact angle to water of at least 75°, characterized in that the powder is obtainable by a process including the step of spray-drying an aqueous slurry of detergent ingredients the paraffin wax being either incorporated in the slurry or sprayed onto the spray-dried powder."

"7. A process for the preparation of a detergent powder being substantially free from inorganic phosphate and comprising at least 5% by weight of one or more anionic surfactants, from 20 to 80 % by weight of crystalline or amorphous aluminosilicate detergency builder no more than 10 % by weight of alkali metal silicate and 0.1 to 6 % by weight based on the powder of a paraffin wax which is water-insoluble and substantially insoluble in anionic and nonionic surfactants and has a melting point within the range of from 30 to 100°C and a contact angle to water of at least 75°, the process including the step of spray-drying an aqueous slurry, characterised in that the paraffin wax is either incorporated in the slurry or sprayed onto the spray-dried powder."

Claims 1 and 7 of the first auxiliary request (also

consisting of 13 claims) differ from those of the main request by the addition of "and in that the powder is substantially free of paraffinic oil" at their respective ends.

VI. The Appellant requested that the decision under appeal be set aside and the patent be revoked; the Respondent requested that the appeal be dismissed and the patent be maintained in amended form according to the main request or alternatively according to the first or the second auxiliary request.

VII. At the end of the oral proceedings, the Chairman announced the Board's decision.

Reasons for the Decision

1. *Procedural matters*

1.1 Article 83 EPC (Claims 1 to 13)

The grounds of opposition were solely based on Article 100(a) EPC. Therefore, the Board did not consider the objection based on Article 100(b) EPC and raised only in the appeal stage (see G 9/91, Reasons for the Decision no. 11, OJ 1993, 408).

2. Main request

2.1 Articles 123 and 84 EPC (Independent Claims 1 and 7)

Claim 1 of the main request as filed during oral proceedings differed in essence from Claim 1 as granted by the addition of "characterized in that the powder is

obtainable by a process including the step of spray-drying an aqueous slurry of detergent ingredients the paraffin wax being either incorporated in the slurry or sprayed onto the spray-dried powder". This amendment is supported by the application as filed (page 2, lines 29 to 33 and page 5, lines 32 and 37) and does not lead to an extension of the protection conferred by the claim.

As to the meaning of "paraffin wax substantially insoluble in the anionic and nonionic surfactants" objected to by the Appellant, the Respondent conceded during oral proceedings that the paraffin wax according to document (1) was the same as that used according to the patent in suit with the consequence that the wax of the patent in suit had the same properties as the wax of document (1) and a discussion of the expression "substantially insoluble" (already contained in Claim 1 as granted) was, therefore, unnecessary.

Therefore, the Board is satisfied that the subject-matter of Claim 1 meets the requirements of Articles 84 and 123 EPC.

2.2 Novelty

Claim 1, Claim 7 and their respective dependent Claims 2 to 6 and 8 to 13.

Claim 1 of the patent in suit is directed to a spray-dried detergent powder comprising, inter alia, from 0.1 to 6% by weight of a paraffin wax which is water-insoluble and substantially insoluble in the anionic and nonionic surfactants and has a melting point within the range of from 30 to 100°C and a contact angle to water of at least 75°, characterized in that the powder

is obtainable by a process including the step of spray-drying an aqueous slurry of detergent ingredients the paraffin wax being either incorporated in the slurry or sprayed onto the spray-dried powder.

The detergent composition according to example XI of document (1) contained, inter alia, a paraffin wax, a sodium salt of a linear dodecylbenzenesulfonate, sodium tripolyphosphate and a zeolite.

As the Respondent conceded that the paraffin wax used in example XI of document (1) was the same as that used in the patent in suit, this wax met all the requirements of the wax as defined in Claim 1 of the patent in suit. Conventional manufacturing methods for obtaining compositions containing said wax were described on page 32, lines 1 to 14 and page 35, lines 26 and 27 of document (1); there was however no clear statement according to which method example XI had been prepared. Therefore there is no clear and unambiguous disclosure of a powder that had been obtained by spray drying an aqueous slurry of detergent ingredients, the paraffin wax being either incorporated in the slurry or sprayed onto the spray dried powder which would yield different products in view of the different wax distribution within the product. In the absence of any evidence as to the manufacturing process of said detergent powder, the Board concludes that the subject-matter of Claim 1 is not disclosed by document (1).

The Board is satisfied that the subject-matter of Claim 1 is novel. Since no novelty objections were raised on the basis of the other citations, it is not necessary to give further arguments in this respect.

Since Claim 7 is directed to a process comprising the spray drying step of Claim 1, the subject-matter of this claim is also novel for the same reasons. The subject-matter of independent Claims 1 and 7 being novel, the respective depending Claims 2 to 6 and 8 to 13 meet also the requirements of Article 54 EPC.

2.3 Inventive step (Claim 1)

According to the patent in suit, the technical problem to be solved was to overcome difficulties encountered with the physical properties of zero-phosphate (or low phosphate) detergent compositions of the state of the art, in particular to improve the dispensing behaviour of zeolite-built detergent powders prepared at least in part by spray-drying and intended for use in drum-type front-loading washing machines (patent in suit, page 2, lines 10 to 20).

The Board is not aware of any state of the art calling for a reformulation of this problem. In particular, documents (1) and (7) are essentially concerned with foam regulation. Therefore both documents are inadequate as starting point for evaluating inventive step.

The examples 1 to 4 of the table on page 6, lines 16 to 28 of the patent in suit show that already low levels of 0.25 parts of paraffin wax effected an improvement in the dispensing behaviour and that no dispenser residues at all were observed when higher levels of paraffin wax were used. Therefore the Board accepts that Claim 1 encompasses embodiments solving the existing technical problem. However, according to the patent in suit, paraffin oil liquid at ambient

temperature is ineffective and also tends to give wet, sticky powders with unacceptable flow properties (page 3, lines 52 to 54). It is noted in this context that none of the examples 1 to 4 and 5 to 8 of the patent in suit comprises paraffin oil.

The Board concludes for this reason that paraffin oil should not be part of the claimed detergent powder composition. The term "comprising" in Claim 1 however allows for the presence of paraffin oil. Therefore not all the embodiments of Claim 1 solve the problem underlying the patent in suit. Hence, Claim 1 and consequently the main request are not allowable.

3. *First auxiliary request*

3.1 Articles 84 and 123 EPC

The Board is satisfied that the claims meet the requirements of Articles 84 and 123 EPC. As no objections were raised in this respect by the Appellant, it is not necessary to elaborate these matters here.

3.2 Novelty

No objections were raised with respect to novelty. The Appellant declared that also document (7) did not anticipate the subject-matter of Claim 1.

The Board is satisfied that none of the citations discloses the subject-matter of Claim 1 which, thus, is novel.

The subject-matter of Claim 7 is also novel for the

same reasons.

Therefore the respective dependent Claims 2 to 6 and Claims 8 to 13 meet also the requirements of Article 54 EPC.

3.3 Inventive step

3.3.1 Claim 1

Now, due to the incorporation of "substantially free of paraffin oil" all the embodiments of the subject-matter of Claim 1 and Claim 7 solve the problem underlying the patent in suit. The examples 1 to 4 of the table on page 6 of the patent in suit demonstrate that the spray-dried detergent powder according to Claim 1 have less respectively no dispenser residue at all.

The problem underlying the present invention is the one indicated in the patent in suit i.e. how to improve the dispensing behaviour of zeolite containing detergent powders.

Zeolite-built powders were known to dispense less well than the phosphate-built powders (patent in suit, page 2, lines 10 to 20). The objective was however also to have a detergent composition being phosphate free. As already said under point 2.3, paragraph 2, the Board is not aware of any documents dealing with the problem to be solved by the present invention. There is no pointer in the cited prior art documents to the addition of a specific wax to detergent powders which would meet the requirements defined in Claim 1. The Board, therefore, has no reasons to deviate from the Opposition Division's conclusions (see above point II)

which also apply to the present Claim 1 and agrees that the subject-matter of Claim 1 involves an inventive step.

3.3.2 Claim 7

Claim 7 is directed to a process for the preparation of a detergent powder which is substantially free of paraffin oil and which contains inter alia 0.1 to 6% by weight based on the powder of a paraffin wax which is water-insoluble and substantially insoluble in the anionic and nonionic surfactants, the process including the step of spray-drying an aqueous slurry, the paraffin wax being either incorporated in the slurry or sprayed onto the spray dried powder.

The reasoning set out under point 3.3.1 applies mutatis mutandis to Claim 7.

Therefore, the subject-matter of Claim 7 involves also an inventive step.

4. *Second auxiliary request*

Since the first auxiliary request is allowable, the second auxiliary request has not to be discussed.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with

the order to maintain the patent in amended form as follows:

Claims: 1 to 13 of the Amended First Auxiliary Request dated 5 April 2000.

Description: to be adapted thereto.

The Registrar:

The Chairman:

G. Rauh

P. Krasa