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**Datasheet for the decision
of 10 August 2012**

Case Number: T 0849/10 - 3.3.06

Application Number: 97934949.5

Publication Number: 1002034

IPC: C11D 3/386

Language of the proceedings: EN

Title of invention:

Cleaning compositions comprising a specific oxygenase

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Unilever N.V.

Headword:

Oxygenase cleaning composition/P&G

Relevant legal provisions:

-

Relevant legal provisions (EPC 1973):

EPC Art. 83, 54(1)(2), 56

Keyword:

"Sufficiency of disclosure - main request (yes)"

"Novelty - main request (yes)"

"Inventive step - main request (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0649/10 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 10 August 2012

Appellant: UNILEVER N.V.
(Opponent) Weena 455
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Representative: Kan, Jacob Hendrik
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Respondent: THE PROCTER & GAMBLE COMPANY
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Representative: Jones, Helen M.M.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted 15 February 2010
rejecting the opposition filed against European
patent No. 1002034 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman: P.-P. Bracke
Members: E. Bendl
U. Tronser

Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division to reject the opposition against the European patent no. 1 002 034.

II. The set of claims as granted contains in total 22 claims with the following independent claims:

"1. A cleaning composition comprising a surfactant and a proteinic substrate based oxygenase, selected from the group consisting of:

- 1.13.11.11 TRYPTOPHAN 2,3-DIOXYGENASE
- 1.13.11.20 CYSTEINE DIOXYGENASE
- 1.13.11.26 PEPTIDE-TRYPTOPHAN 2,3-DIOXYGENASE
- 1.13.11.29 STIZOLOBATE SYNTHASE
- 1.13.11.30 STIZOLOBINATE SYNTHASE
- 1.13.12.1 ARGININE 2-MONOOXYGENASE
- 1.13.12.2 LYSINE 2-MONOOXYGENASE
- 1.13.12.3 TRYPTOPHAN 2-MONOOXYGENASE
- 1.13.12.9 PHENYLALANINE 2-MONOOXYGENASE
- 1.13.12.10 LYSINE 6-MONOOXYGENASE
- 1.13.99.3 TRYPTOPHAN 2'-DIOXYGENASE
- 1.14.11.1 γ -BUTYROBETAINE DIOXYGENASE
- 1.14.11.2 PROCOLLAGEN-PROUN, 2-OXOGLUTARATE 4-DIOXYGENASE
- 1.14.11.4 PROCOLLAGEN-LYSINE, 2-OXOGLUTARATE 5-DIOXYGENASE
- 1.14.11.7 PROCOLLAGEN-PROLIN. 2-OXOGLUTARATE 3-DIOXYGENASE
- 1.14.11.8 TRIMETHYLLYSINE, 2-OXOGLUTARATE DIOXYGENASE
- 1.14.11.16 PEPTIDE-ASPARTATE β -DIOXYGENASE
- 1.14.16.1 PHENYLALANINE 4-MONOOXYGENASE

- 1.14.16.2 TYROSINE 3-MONOOXYGENASE
- 1.14.16.4 TRYPTOPHAN 5-MONOOXYGENASE
- 1.14.17.3 PEPTIDYLGLYCINE MONOOXYGENASE."

The list of enzymes defined in Claim 1 will thereafter be referred to as "*** LIST OF OXYGENASES ***".

"17. A fabric softening composition comprising proteinic based oxygenase selected from the group consisting of:

*** LIST OF OXYGENASES ***

and a cationic surfactant comprising two long chain lengths."

"18. Use of a proteinic substrate based oxygenase selected from the group consisting of:

*** LIST OF OXYGENASES ***

in a cleaning and/or softening composition for fabric cleaning and/or fabric stain removal and/or fabric whiteness maintenance and/or fabric softening and/or fabric colour appearance and/or fabric dye transfer inhibition."

"19. Use of a proteinic substrate based oxygenase selected from the group consisting of:

*** LIST OF OXYGENASES ***

in a cleaning composition for cleaning hard surfaces such as floors, walls, bathroom tiles and the like."

"20. Use of a proteinic substrate based oxygenase selected from the group consisting of:

** LIST OF OXYGENASES **

in a cleaning composition for hand and machine dishwashing."

"21. Use of a proteinic substrate based oxygenase selected from the group consisting of:

** LIST OF OXYGENASES **

in a cleaning composition for oral and/or dental applications."

"22. Use of a proteinic substrate based oxygenase selected from the group consisting of:

** LIST OF OXYGENASES **

in a cleaning and/or softening composition for the sanitisation of the treated surfaces."

III. The Appellant/Opponent filed on 14 April 2010 an appeal against the decision of the Opposition Division with the appeal fee being received on the same day. In the grounds of appeal, which were filed on 24 June 2010, the patent-in-suit was considered to be insufficiently disclosed and regarded not to meet the requirements for novelty and inventive step. Inter alia the following documents were cited:

D7 = US-A-3 635 828

D8 = WO-A-99/02638

D9 = WO-A-99/02639

IV. The main arguments of the **Appellant** were as follows:

Sufficiency of disclosure

- Each EC number listed in the patent-in-suit represents numerous enzymes catalysing one specific reaction.

- Since these enzymes all have different properties like the pH optimum, it is considered to represent an undue burden to identify those enzymes which will work in the context of the patent-in-suit, in particular the ones working in accordance with the test method described in paragraphs [0017]-[0018].

Novelty

- The use of oxygenases in general for cleaning purposes is known from the state of the art. Together with D8 and D9 the patent-in-suit describes a large number of oxygenases, which cannot be considered a "narrow" selection from the group of all oxygenases disclosed in the prior art.

- Since a "narrow" selection is one of the necessary criteria of a selection invention, the requirement for novelty are not met.

Inventive step

- D7 is the closest state of the art.

- The replacement of the lipoxygenase used in D7 by an oxygenase is obvious for a skilled person.
- The claimed subject-matter does consequently not involve an inventive step.

The **Respondent** submitted in addition to the main request with the letter of 12 November 2012 an auxiliary request and provided the following main arguments:

Sufficiency of disclosure

- There is no need to carry out the test described in the description of the patent-in-suit. In order to re-work the present invention merely an enzyme from the list defined in the claims has to be chosen.

Novelty

- D8 and D9 do not form state of the art according to Article 54(1), (2) EPC 1973.
- None of the prior art documents cited by the Appellant discloses enzymes as listed in the claims of the patent-in-suit. The requirement for novelty is therefore met.

Inventive step

- D7 is the closest prior art.
- The lipoxygenase characterized in D7 serves an entirely different purpose than the oxygenases according to the present invention. The skilled person would not replace the said lipoxygenase with an enzyme according to the present invention.

- Therefore, the invention involves an inventive step.

V. The Appellant requested that the decision under appeal be set aside and that the European patent no. 1 002 034 be revoked.

The Respondent requested that the appeal be dismissed or that the patent be maintained on the basis of the auxiliary request submitted with the letter dated 12 November 2012.

Reasons for the Decision

Main request

1. Sufficiency of disclosure
 - 1.1 The Appellant argued that it would be an undue burden for a person skilled in the art to compare all enzymes defined in the patent-in-suit with the enzymes EC 1.14.18.1 used in the test according to paragraphs [0017]-[0018]. This was considered necessary by the Appellant, as part of those enzymes would allegedly not be suitable for the claimed purpose, given the differences in their properties like the pH optimum.
 - 1.2 The Board does not share the view of the Appellant. The patent-in-suit teaches to select an enzyme from a defined group, as is shown in the claims or in paragraph [0023], to prepare compositions according to the present invention. This has also been demonstrated by the examples. The Appellant did not submit any

- evidence that the definition of the EC classes is not sufficient to identify individual members of the group.
- 1.3 Even if the test conditions in paragraphs [0017]-[0018] were not described in such a clear way as to cover **all** possible variations of the enzyme pH optimum, this would not have any impact on the general teaching of the patent-in-suit to choose an enzyme **from the given list** (see the wording of the claims "oxygenase selected from the group consisting of").
- 1.4 Therefore, the requirement of sufficiency of disclosure is considered to be met.
2. Novelty
- 2.1 The Appellant argued that the patent-in-suit together with D8 and D9 covered a total of 119 oxygenases, which amounts to a major part of the total of approximately 300 enzymes of EC 1.13 and 1.14. Since the Appellant did not regard this to be a "narrow" selection, the criteria for a selection invention would allegedly not be met.
- 2.2 The Board cannot accept Appellant's arguments. Given the fact that D8 and D9 have the same filing date as the patent-in-suit and therefore do not represent state of the art according to Article 54(2) EPC 1973 or Article 54(3) EPC, these documents cannot be used for any novelty objection.
- 2.3 Furthermore, the patent-in-suit does not define a sub-range of a broader numerical range, but a **selection** of individual (classes of) enzymes mentioned **distinct** from

the ones used in D7. Thus, for the present case the criteria for selection inventions cannot be applied.

2.4 Finally, the Appellant has not credibly shown, that any of the documents cited in the course of the appeal procedure discloses an enzyme encompassed by the list of Claim 1 as part of a cleaning composition.

2.5 As Claims 17-22 describe the use of enzymes identical to the ones used in Claim 1, similar considerations apply for these claims too.

2.6 Therefore novelty of the claimed subject-matter of the main request is given.

3. Inventive step

According to the problem and solution approach, which is used by the Boards of Appeal of the European Patent Office in order to decide on the question of inventive step, it has to be determined which technical problem the object of a patent objectively solves vis-à-vis the closest prior art document. It also has to be determined whether or not the solution proposed to overcome this problem is obvious in the light of the available prior art disclosures.

3.1 Claim 1

3.1.1 The aim of the present patent is to produce an enzymatic bleach system for proteinic substrate, which is applicable to a variety of different cleaning purposes.

Both parties cited D7 as the closest state of the art. Taking into account the available prior art disclosures the Board too sees D7 as a suitable starting point for the problem and solution approach.

D7 relates to lipoxygenase-containing detergent compositions for "the removal of soils and stains having a content of polyunsaturated fats or derivatives thereof" (D7, col.1, lines 51/52).

3.1.2 Vis-à-vis D7 the objective problem has to be defined as the provision of enzymatic cleaning system for **proteinic** stains.

3.1.3 The proposed solution to this problem is the composition of Claim 1.

The difference between Claim 1 and the disclosure of D7 is to be seen in the application of specific proteinic substrate based oxygenases.

3.1.4 The Appellant alleged that the composition claimed would not work and that consequently the problem would not be solved over the entire scope claimed, in particular given the lack of proof of any effect in the patent-in-suit. However, the Appellant did not provide any evidence in this respect.

In the present case the burden of proof is on the Appellant's side, as already in opposition procedure the Appellant's objections were rejected. However, no such proof was submitted in appeal procedure.

Thus, taking these circumstances into account, the Board does not have any reason to assume that the problem has not been solved over the entire range claimed.

- 3.1.5 The remaining question to be clarified is, whether the claimed subject-matter would be derivable to a skilled person when starting from the closest state of the art.

D7 uses a lipoxygenase to remove stains, which enzyme catalyses the oxidation of polyunsaturated **fatty acids**.

In contrast thereto the patent-in-suit aims at acting on a **proteinic** substrate by using proteinic substrate based oxygenase.

Given the fact that with the two kinds of enzymes entirely different substrates are being treated, the person skilled in the art would not see any reason to replace one enzyme with the other.

The Appellant mentioned that the gravy used in Example II of D7 is described as being sensitive to proteolytic activity. However, the passage referred to merely mentions that the gravy is susceptible to **proteases** rather than hinting towards the use of the specific **oxygenases** disclosed in the patent-in-suit. Thus, also the cited passage does not render the use of enzymes as defined in Claim 1 of the patent-in-suit obvious.

In addition, no document has been cited which points towards the use of the specific oxygenases of Claim 1 and therefore would, in combination with D7, render the claimed subject-matter obvious.

Consequently, the subject-matter of Claim 1 meets the requirement of Article 56 EPC 1973.

3.2 Claims 17-22

These claims relate to the use of enzymes as listed in Claim 1 for a variety of cleaning purposes. Since neither D7 nor any combination of D7 with a further document give any hint to replace the lipoxygenase by a proteinic substrate based oxygenase, as discussed above, also the uses as defined in these claims are considered to involve an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar

The Chairman

D. Magliano

P.-P. Bracke