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**Datasheet for the decision
of 24 April 2009**

Case Number: T 0234/07 - 3.3.06

Application Number: 96928351.4

Publication Number: 0850295

IPC: C11D 3/386

Language of the proceedings: EN

Title of invention:

Prevention of back-staining in stone washing

Patentee:

Novozymes A/S

Opponent:

Genencor International, Inc.

Headword:

Back-staining/NOVOZYMES

Relevant legal provisions:

EPC Art. 83, 84
RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):

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Keyword:

"Sufficiency of disclosure - no (main request, auxiliary requests 1 - 7)"

"Lack of clarity - no (auxiliary request 8)"

Decisions cited:

T 0409/91

Catchword:

-



Case Number: T 0234/07 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 24 April 2009

Appellant: Genencor International, Inc.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
8 December 2006 concerning maintenance of
European patent No. 0850295 in amended form.

Composition of the Board:

Chairman: P.-P. Bracke
Members: E. Bendl
J. Van Moer

Summary of Facts and Submissions

I. The appeals are against the interlocutory decision of the Opposition Division to maintain the European patent 0 850 295 in amended form.

II. In opposition proceedings the main request was refused, because of lack of novelty of a product claim relating to a cellulase composition, the first auxiliary request did not meet the requirements of Article 123(2) EPC and the subject-matter of the second auxiliary request was not considered by the Opposition Division to solve the technical problem across the whole claimed scope.

III. Claim 1 of the third auxiliary request - the request on which the patent was maintained in amended form - read as follows:

"1. A method of forming localized variation of color density in the surface of a dyed cellulosic fabric, comprising agitating the fabric in an aqueous medium having a pH in the range 6.5 to 9 and containing:

a first component which is either

- (a) an alkaline cellulase of Family 5 which is able to hydrolyze p-nitrophenyl- β -1,4-cellobioside and which is derived from a strain of Bacillus, or
- (b) a cellulase of Family 7, which is derived from a strain of Humicola

and a second component which is a cellulase having abrading activity,

wherein each cellulase displays at least 30% of its maximum activity at pH 7, and wherein essentially no cellulase other than the specified first and second component is present."

- IV. Both, the Proprietor and the Opponent filed an appeal against this decision. During the oral proceedings on 24.04.09 before the Board of Appeal the Proprietor filed a main request and nine auxiliary requests.

Independent Claims 1 of these sets of claims, which form the basis of the present decision, read as follows:

Main request

The wording of Claim 1 is identical to the wording of Claim 1 as maintained in amended form.

First auxiliary request

The first auxiliary request corresponds to the wording of the main request, wherein, at the end of Claim 1, the wording "and wherein the first component is at a concentration of 10-1000 ECU/l" is added.

Second auxiliary request

The wording of this request corresponds to the main request, but the passage "wherein essentially no cellulase other than the specified first and second component is present" is replaced by the expression "wherein the aqueous medium is free of other cellulase components than those specified".

Third auxiliary request

The third auxiliary request corresponds to the main request, but the first component is defined as follows: "a first component which is a cellulase of Family 7, which is derived from a strain of Humicola".

Fourth auxiliary request

The wording of this request corresponds to the third auxiliary request, but the second component is defined as follows: "and a second component which is a cellulase having an abrading activity and is a cellulase of Family 45 having a cellulose binding domain and is derived from a fungal strain".

Fifth auxiliary request

The wording of the fifth auxiliary request corresponds to the wording of the third auxiliary request, but the second component is defined as follows: "and a second component which is a cellulase having abrading activity and is endoglucanase EG V derived from H. insolens strain DSM 1800, or is a Family 45 cellulase having a cellulose binding domain derived from a fungal strain having at least 60% homology with said EG V".

Sixth auxiliary request

The wording of this request corresponds to the wording of the third auxiliary request, but the second component is defined as follows: "and a second component which is a cellulase having abrading activity and is a cellulase of Family 45 having a cellulose binding domain and is derived from a strain of Humicola".

Seventh auxiliary request

The wording of this request corresponds to the sixth auxiliary request, but the term "Humicola" in the definition of the second component has been replaced by "Humicola insolens".

Eighth auxiliary request

The wording of the claim reads:

"1. A method of forming localized variation of color density in the surface of a dyed cellulosic fabric, comprising agitating the fabric in an aqueous medium having a pH in the range 6.5-9 and containing:

a first component which is endoglucanase EG I derived from *H. insolens* strain DSM 1800

and a second component which is endoglucanase EG V derived from *H. insolens* strain DSM 1800

wherein each cellulase displays at least 30% of its maximum activity at pH 7, and wherein essentially no cellulase other than the specified first and second component is present".

Claims 2 to 4 are dependent on Claim 1.

- V. In the grounds of appeal as well as in additional letters of reply the Proprietor argued, why he considered newly filed claims to meet the requirements of Articles 123(2), 123(3), 83, 84, 54, 56 EPC.

Proprietor's main arguments with regard to sufficiency of disclosure were as follows:

- As already stated in the decision of the Opposition Division, the objection concerning the feature "wherein each cellulase displays at least 30% of its maximum activity at pH 7" relates to clarity rather than to sufficiency of disclosure.
 - The granted patent provides a method of determining enzyme activity in paragraph 47. In particular, details about the substrate, temperature and the measurement of degradation are given in this paragraph.
 - The patent provides details of an ample number of enzymes that can be used in the method.
 - There is no evidence that it was not possible to identify cellulases from the genera Bacillus and Humicola which fall within the scope of the claims. The burden of proof is on the Opponent.
- VI. The Opponent objected in the reasons for the appeal to lack of sufficiency of disclosure, lack of clarity and lack of inventive step. As far as sufficiency of disclosure is concerned, the teaching of paragraph 47 of the patent-in-suit was not considered to give any teaching on how to determine the activity of all the kinds of cellulases covered by the wording of the claims.

In the course of the oral proceedings the Opponent clarified that the only objection maintained against the eighth auxiliary request is lack of clarity.

Opponent's main arguments with regard to clarity of the claimed subject-matter were as follows:

- The term "essentially" in Claim 1 is unclear, because the skilled person does not know how much "other" cellulase may be present.

- The clarity issue was present in the granted claims, but was of minor importance since it did not appear in the independent claims. Therefore, the issue has to be re-discussed after incorporation of the feature into independent claim 1.

VII. The Appellant (Patent Proprietor) requested that the decision under appeal be set aside or in alternative, that the patent be maintained on the basis of the auxiliary requests 1 to 9 submitted during the oral proceedings.

The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent be revoked.

Reasons for the Decision

1. Main request

1.1 In the oral proceedings the Proprietor confirmed that the feature of Claim 1 "wherein each cellulase displays at least 30% of its maximum activity at pH 7" is a restrictive parameter. Thus, this feature has to be used by the person skilled in the art to select cellulases suitable for the claimed method.

- 1.2 Some explicit examples of suitable enzymes are given in the description of the patent-in-suit, however, the wording of Claim 1 covers many more enzymes.

It is established case law that the disclosure of an invention is only sufficient if it enables the skilled person to obtain substantially all embodiments falling within the ambit of a claim (cf. T 0409/91 EPO OJ 1994 653, point 3.5 of the reasons), i.e. also the cellulase enzymes according to the wording of the claims which are not explicitly disclosed.

- 1.3 In relation thereto the Proprietor referred to the assay according to paragraph 47 of the patent as granted. This passage reads as follows:

"The cellulase endo-activity is determined by the reduction of viscosity of CMC (carboxy-methyl cellulose) in a vibration viscosimeter. 1 ECU (endo-cellulase unit) is the amount of activity which causes a 10-fold reduction of viscosity when incubated with 1 ml of a solution of 34.0 g/L of CMC (trade name Aqualon 7LFD) in 0.1 M phosphate buffer (pH 7.5), 40°C for 30 minutes."

- 1.4 When analysing the cited passage carefully, it becomes apparent that the alleged "assay" does not give any instructions on how to perform the determination of the cellulase activity.

The **first** sentence simply states that CMC is used as a substrate and that the test is carried out in a vibration viscosimeter. No details are given as to temperature, time, buffer or concentrations.

The **second** sentence relates to the definition of a specific unit, the ECU. Although this definition includes more information concerning the process parameters, it has to be emphasized that the passage neither is to be seen as instructions relating to a working method, nor does it give any details how to carry out the tests at conditions other than the ones specified, e.g. at different pHs.

1.5 Also the remaining disclosure of the patent does not show how to identify enzymes meeting the criterion concerning maximum cellulase activity.

1.6 Even when arguing, that the skilled person would transform the information given in the ECU definition into a working method to carry out tests at different pHs, there would still not be sufficiency of disclosure:

Paragraph 47 refers to cellulase **endo**-activity and endo-cellulase units. The wording of Claims 1 is **not** restricted to such endo-cellulases. This has been explicitly confirmed by the Proprietor during the oral proceedings.

Thus, even if the ECU definition were considered to be suitable as a working method for determining the activity of endo-cellulases at different pHs, there would still not be any teaching on how to determine suitable **exo**-cellulases.

1.7 Furthermore, the argumentation that the problems encountered when putting the invention into practice relate to a lack of clarity rather than insufficiency

of disclosure can also not be followed. The passage of Claim 1 relating to maximum activity of the cellulases is not ambiguous or open to interpretation. Simply no information is given in the patent on how to identify enzymes meeting this requirement.

1.8 In addition, Proprietor's arguments concerning lack of evidence that proper identification of cellulases from *Bacillus/Humicola* is not possible, is also not found by the Board to be valid. As stated above and confirmed by the Proprietor, also exo-cellulases are covered by Claim 1. The patent-in-suit does not contain any teaching how to identify such exo-cellulases. In this respect the Board does not regard any further proof by the Opponent to be necessary.

1.9 Consequently, the main request lacks sufficiency of disclosure (Article 83 EPC).

2. **First auxiliary request**

2.1 Claim 1 of the first auxiliary request differs from Claim 1 of the main request by the additional feature "wherein the first component is at a concentration of 10-1000 ECU/l".

2.2 Since the first auxiliary request was filed during the oral proceedings, i.e. at a very late moment of the procedure (as objected to by the Opponent), included features from the description and is not suitable to overcome the problems with regard to sufficiency of disclosure as discussed above, the Board decided in accordance with Art. 13(1) RPBA (EPO OJ 11/2007 536), that the first auxiliary request is not admissible.

3. **Second to seventh auxiliary request**

3.1 Each of these auxiliary requests contains in Claim 1 at least one reference to a cellulase having an abrading activity or a reference to Bacillus or Humicola.

3.2 Since all of these definitions encompass a large number of specific strains producing different types of enzymes, the problem on how to identify suitable cellulases displaying at least 30% of their maximum activity at pH 7, as discussed above, remains.

3.3 Thus, for the same reasons as for the main request the second to the seventh auxiliary request are not considered to meet the requirement of Article 83 EPC.

4. **Eighth auxiliary request**

4.1 The subject-matter of the eighth auxiliary request differs from the previous requests in that two very specific enzymes from Humicola insolens DSM 1800, namely EG I and EG V, are used.

4.2 Sufficiency of disclosure

Although the feature relating to the enzymes' activity at pH 7 is still part of Claim 1, the person skilled in the art does not need to carry out tests to find suitable enzymes, because only two **specific** enzymes are used in the method according to Claim 1. Thus, the requirement concerning sufficiency of disclosure is considered to be met.

The Opponent shared this point of view in the oral proceedings.

4.3 Clarity

The only objection raised by the Opponent concerning the eighth auxiliary request is with regard to clarity of the term "essentially" in Claim 1. However, the term was already present in dependent Claim 11 as granted.

According to established jurisprudence of the Boards of Appeal, features being present in the claims as granted are usually not re-examined in appeal phase for lack of clarity.

Opponent's argumentation that it has only become apparent after the combination of Claims 1 and 11 as granted, that the term "essentially" lacks clarity, cannot be followed.

Although only present in a dependent claim, examination of the meaning of this term was part of the tasks of the Examining Division before granting the patent. The meaning of this feature did not change at a later stage of the procedure, when it was incorporated into the independent claim 1. Consequently there is no need to re-examine the question of clarity.

The requirements of Article 84 EPC for the eighth auxiliary request are considered to be met.

4.4 The Board does not have any reason to object the requirement under Art. 123(2) EPC, novelty or inventive step of the claimed method. Since the Opponent did not

contest this (see point VI), there is no reason to give a detailed reasoning why the claimed method is novel over the cited prior art and not obviously derivable or why the requirement of Art. 123(2) EPC is met.

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 with the order to maintain the patent with the following documents:
 1. Claims 1 to 4 according to the 8th auxiliary request filed during the oral proceedings
 2. a description to be adapted.

The Registrar

The Chairman

G. Rauh

P.-P. Bracke