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**Datasheet for the decision  
of 17 April 2012**

**Case Number:** T 0510/10 - 3.3.06

**Application Number:** 98964195.6

**Publication Number:** 1042443

**IPC:** C11D 3/386, C12N 9/98

**Language of the proceedings:** EN

**Title of invention:**  
Granule with hydrated barrier material

**Proprietor:**  
GENENCOR INTERNATIONAL, INC.

**Opponent:**  
NOVOZYMES A/S

**Headword:**  
Hydrated barrier salt granules/GENENCOR

**Relevant legal provisions:**  
EPC Art. 123(2), 83, 84, 54

**Keyword:**  
"Priority validly claimed - all requests (no)"  
"Novelty - main request, auxiliary requests 1-3 (no),  
auxiliary request 4 (yes)"  
"Remittal to department of first instance for further  
prosecution"

**Decisions cited:**  
G 0001/92, T 0592/92

**Catchword:**  
-



Case Number: T 0510/10 - 3.3.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.06  
of 17 April 2012

**Appellant:** GENENCOR INTERNATIONAL, INC.  
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**Representative:** HOFFMANN EITLE  
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**Respondent:** NOVOZYMES A/S  
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**Representative:** Stevens, Ian Edward  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 30 December 2009  
revoking European patent No. 1042443 pursuant  
to Article 101(3)(b) EPC.

**Composition of the Board:**

**Chairman:** P.-P. Bracke  
**Members:** E. Bendl  
J. Geschwind

## Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division to revoke the European patent No. 1 042 443.

II. The Appellant/Proprietor filed an appeal against this decision and inter alia submitted a new main request and five auxiliary requests. Claim 1 of the **main request** reads as follows:

"1. A granule comprising an enzyme core, a hydrated barrier salt coated over the enzyme core, and one or more coating layers coated over the hydrated barrier material, wherein the barrier salt is magnesium sulfate heptahydrate, zinc sulfate heptahydrate, magnesium nitrate hexahydrate or magnesium acetate tetrahydrate, the barrier salt having moderate or high water activity."

Claim 1 of the **first auxiliary request** differs from Claim 1 of the main request in the deletion of the term "the barrier salt having moderate to high water activity".

Claim 1 of the **second auxiliary request** distinguishes from Claim 1 of the main request in the restriction of the list of possible barrier salts to only magnesium sulphate heptahydrate.

Claim 1 of the **third auxiliary request** differs from Claim 1 of the first auxiliary request in the restriction of the list of possible barrier salts to only magnesium sulphate heptahydrate.

Claim 1 of the **fourth auxiliary request**, the only claim of this request, reads as follows:

"1. A method of producing a granule comprising a protein core, a hydrated barrier salt coated over the protein core, and one or more coating layers coated over the hydrated barrier material, wherein the barrier salt is magnesium sulfate heptahydrate, zinc sulfate heptahydrate, magnesium nitrate hexahydrate or magnesium acetate tetrahydrate, the barrier salt having moderate or high water activity, the method comprising:

- a) providing the protein core
- b) coating the hydrated barrier salt onto the protein core; and
- c) applying the outer coating over the hydrated barrier salt,

the granule being produced by fluid bed coating."

III. The Respondent/Opponent objected inter alia, that the priority would not be validly claimed, argued that none of the sets of claims would meet the requirement of novelty and that the fourth auxiliary request would additionally not meet the requirements of Articles 123(2), 83 and 84 EPC. In support of these arguments the following documents were cited:

- D5 = Invoices concerning Purafect 4000 M, 2000 E and 4000 E
- D14 = Minutes of the taking of evidence dated 6 February 2007, European patent no. 1 092 007,
- D16 = Invoices concerning Purafect 2000 E
- D17 = Römpf Chemie Lexikon, page 2597, vol. 4, 1995
- D18 = Comparative tests filed by the Respondent

D19 = Proceedings book, pages 289-290 of "The 25<sup>th</sup> International Symposium on Controlled Release of Bioactive Materials", which took place on 21-26 June 1998

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

Priority (main request, auxiliary requests 1-4)

- The combination of features of Claim 1 of each of the requests cannot be found in the priority document.

Novelty (main request, auxiliary requests 1-4)

- The prior use of products of the Purafect M and E series as evidenced by documents D5 and D16 takes away novelty of each Claim 1 of the requests.

Article 123(2) EPC (fourth auxiliary request)

- The combination of features of Claim 1 has not been disclosed in the application as originally filed.

Article 83 EPC (fourth auxiliary request)

- No method for determining the hydration state of the barrier material is indicated in the patent-in-suit and magnesium sulphate heptahydrate does not form at the conditions indicated. Therefore, the invention is not sufficiently disclosed.

Article 84 EPC (fourth auxiliary request)

- Two layers are applied in the method of producing a granule. No indication has been given in the patent-in-suit whether the  $a_w$  value is to be determined after the first or the second coating.

- The skilled person does not know in which of the steps a), b) or c) of Claim 1 the fluid bed coating technique should be applied. Therefore, the wording of Claim 1 is not clear.

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

Priority (main request, auxiliary requests 1-4)

- The combination of Claims 1, 3, 7 of the priority document corresponds to the subject-matter of Claims 1 of all requests.

Novelty (main request, auxiliary requests 1-4)

- The prior use of Purafect 4000 M is not disputed.
- Purafect 4000 M contains a barrier layer of magnesium sulphate **heptahydrate**. However, at the filing date of the patent-in-suit the person skilled in the art was not able to analyze enzyme granules containing the magnesium sulphate heptahydrate coating and being surrounded by a **further** coating layer. Therefore novelty is not destroyed by the prior use. Decisions G 1/92 and T 952/92 were cited in this respect.

Article 123(2) EPC (fourth auxiliary request)

- Claim 1 is a combination of the claims as originally filed. Basis for the additional feature "the fluid being produced by fluid bed coating" can be found on page 6, line 12 of the application as originally filed. Consequently, the requirement of Article 123(2) EPC is met.

Article 83 EPC (fourth auxiliary request)

- The person skilled in the art knows how to determine the hydration state of a salt, therefore the indication of such a process in the patent-in-suit is not necessary. Paragraph [0022] of the patent-in-suit explains how to prepare granules according to the invention.

Article 84 EPC (fourth auxiliary request)

- Details concerning the determination of the  $a_w$  value can be found in paragraph [0022] of the description of the patent-in-suit.
- The examples on file show when and how the process of fluid bed coating is to be used. Therefore, the wording of the claim is clear.

Article 54 EPC (fourth auxiliary request)

- D5 and D16 refer to **products**, but the **method** for producing them is not disclosed and therefore these documents are not novelty-destroying.

V. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or in the alternative of one of the auxiliary requests 1 to 5, all filed during the oral proceedings. Furthermore the Appellant requested that the case be remitted to the department of first instance for further prosecution.

The Respondent requested that the appeal be dismissed.

## Reasons for the Decision

1. *Priority (main request, auxiliary requests 1-4)*
  - 1.1 Claim 1 of the main request refers to a granule comprising an enzyme core, a hydrated barrier salt coated over the enzyme core and a further coating applied over the hydrated barrier material. According to the Appellant this teaching can be found in the priority document in Claims 1, 3, 7.
  - 1.2 The Board cannot share this view. Claim 1 of the priority document discloses a granule comprising an enzyme core and a hydrated barrier material. Claim 3, lists salts to be used as barrier material and Claim 7, which exclusively refers to Claim 1, reports on an additional "layer of material over the barrier layer and enzyme core".
  - 1.3 The wording of these claims does not necessarily mean that the barrier material forms a layer on the surface of the core which is then coated with the additional layer, as the wording used in Claim 7 also covers barrier layers **in the enzyme core** (priority document, page 3, fourth paragraph), i.e. that in such an embodiment the hydrate barrier salt is not **coated over** the core.
  - 1.4 Although a coating of the barrier material **over** the enzyme core is disclosed in Claim 5, this claim exclusively refers to Claim 1, as does Claim 7. Since Claims 5 and 7 describe two distinct embodiments, the combination of features cannot be considered to be disclosed.



- 1.5 When considering the description of the priority document the situation does not change. The fourth paragraph on page 3 of the priority document defines that the barrier material may be dispersed throughout the core, may be a layer in the core or be coated onto the core. The second paragraph on page 4 states that the invention **can** comprise one or more coating layers, i.e. that one or more coating layers are optional.
- 1.6 Thus, in order to arrive at the combination of features of Claim 1 of the main request a number of selections within the description of the priority document has to be made. The specific combination of features of Claim 1 has therefore not been disclosed in the priority document.
- 1.7 This reasoning applies also to the auxiliary requests 1-4. In addition the fourth auxiliary request refers to a **protein** core, whereas in the priority document only an enzyme core is described.
- 1.8 Therefore, none of these requests validly claims the priority date.
2. *Novelty (main request, auxiliary requests 1-3)*
- 2.1 D5 comprises an invoice of the vending of Purafect 4000 M. Since the priority date is not validly claimed and the shipping date of the invoice is prior to the filing date of the patent-in-suit, this invoice becomes state of the art according to Article 54(2) EPC.
- 2.2 The Appellant confirmed in the oral proceedings before the Board the prior use of Purafect 4000 M and conceded

that Purafect 4000 M contains a magnesium sulphate **heptahydrate** coating.

2.3 According to the Appellant the only reason why the prior use cannot be considered novelty-destroying is to be seen in the fact, that the skilled person was, at the filing date of the patent-in-suit, not capable of analyzing the Purafect 4000 M granules with regard to the hydration state of the hydrated layer, in particular given the outer coating of the product. A proof for this assumption was not submitted, but the decisions G 1/92 and T 952/92 were cited in support thereof.

2.4 As pointed out by the Respondent, the statement made by the Representative of the Appellant in the oral proceedings before the Board is in sharp contrast to a comment made by the technical expert of the Appellant, Mr Becker, in the course of the oral proceedings in front of the Opposition Division. In paragraph 7.1 of the minutes of these oral proceedings of 2 December 2009 the following passage can be read: "The technical expert, Mr Becker, further reported that a non-aqueous solvent could be used to extract the coating, but this was not even necessary. From the X ray diffraction peaks it would be possible to determine the salt form with help of textbooks."

2.5 The determination of the hydration state of magnesium sulphate was common knowledge before the present filing date (see D17) and a coating layer could, according to Appellant's technical expert, be removed with a non-aqueous solvent. Alternatively an X ray diffraction method could be carried out. Thus, the Board cannot see

that the person skilled in the art was at the filing date of the patent-in-suit not in a position to determine the hydration state of Purafect 4000 M. Therefore, the disclosure of D5 is considered to be novelty-destroying for Claim 1 of the main request.

2.6 The Board's conclusion is not in contrast to the cited decisions G 1/92 and T 952/92, as both state that information as to the composition or internal structure of a prior sold product is made available to the public and becomes part of the state of the art in the sense of Article 54(2) EPC, if direct and unambiguous access to such information is possible by means of known analytical techniques which were available for use by a skilled person before the relevant date.

2.7 As in the present case no proof has been submitted showing the contrary, the analytical techniques to determine the hydration state of magnesium sulphate used in Purafect 4000 M are considered to have been available to the skilled person before the filing date of the patent-in-suit.

2.8 The same reasoning applies to auxiliary requests 1-3. Therefore, Claims 1 of the main request and of auxiliary requests 1-3 do not meet the requirement of novelty.

3. *Article 123(2) EPC (auxiliary request 4)*

3.1 Claim 10 as originally filed defines a method for producing granules with a core being coated with a hydrated barrier material having moderate or high water activity. According to Claim 11, which is dependent on

Claim 10, a further coating may also be applied onto these granules.

3.2 Salts are listed in paragraph 5 on page 3 as being the only preferred hydrated barrier material; examples are given in the last paragraph on page 4. As the person skilled in the art would understand that these sole preferred and exemplified barrier salts may be used for coating any enzyme core, the only selection which has to be made is the choice of the production method (fluid bed coating), which is originally disclosed on page 6, line 12.

3.3 Consequently, Claim 1 of the fourth auxiliary request is considered to meet the requirement of Article 123(2) EPC.

4. *Article 123(3) EPC (auxiliary request 4)*

The Board is satisfied that the requirement of Article 123(2) EPC is met. No objection in this respect was raised by the Respondent.

5. *Article 83 EPC (auxiliary request 4)*

5.1 The Respondent (a) objected that no method is disclosed in the patent-in-suit on how to determine the hydration form of the barrier salts and (b) further argued that at the processing conditions of Example 1 of the patent-in-suit (50°C, see Table 1) no magnesium sulphate **heptahydrates** would form. It was concluded that this would be confirmed by Example 5 of D18.

- 5.2 In the Board's view the absence in the patent-in-suit of a method for determining the degree of hydration (objection (a)) does not result in a lack of sufficient disclosure. D17 shows the relation between temperature and hydrate forms of magnesium sulphate. Thus, the disclosure implicitly confirms that methods for determining the degree of hydration of salts were known to the skilled person before the filing date of the patent-in-suit.
- 5.3 Also the processing conditions of 50°C used in the patent-in-suit do not contradict the teaching of D17. When using an **outlet** temperature of 50°C for the formation of granules, the actual temperature on the surface thereof will be lower. No proof has been submitted by the Respondent that it will be above the range 1,8-48,2°C which is, according to D17, necessary for the formation of the magnesium sulphate **heptahydrate**.
- 5.4 Furthermore the Board also considers that Example 5 of D18 is not in contradiction to the teaching of the patent-in-suit. Immediately after production of the granules properties as shown in the examples of the patent-in-suit are achieved. Whether or not this changes upon storage is not a matter of Article 83 EPC, but rather a question whether a product (after storage) is still embraced within the claimed scope. Thus, this example confirms that the skilled person is able to produce granules as described in the patent-in-suit.
- 5.5 Consequently, the invention as defined in the fourth auxiliary request is considered to be sufficiently disclosed.

6. *Article 84 EPC (auxiliary request 4)*

6.1 The Respondent objected that (a) it would not be defined in the patent-in-suit whether the  $a_w$  value is to be measured after applying the first or the second coating and that (b) it would not be clear which processing steps are being carried out by fluid bed coating.

6.2 Claim 1 of the fourth auxiliary request differs from the granted set of claims only in the additional feature referring to the fluid bed coating. Thus, the feature attacked by objection (a) was already present in the granted set of claims. The Board therefore has no authority to contest the clarity thereof.

6.3 With regard to objection (b) the only restriction in the wording of Claim 1 is that fluid bed coating has to be part of the production process, independent thereof whether such coating occurs in steps a), b) and/or c). This is confirmed by Example 1, where two fluid bed coating steps are included. However, the fact that a claim may be interpreted in a broad sense does not render it unclear.

6.4 Therefore, the claimed subject-matter is considered to meet the requirement of clarity.

7. *Article 54 EPC (auxiliary request 4)*

7.1 Documents D5 and D16 are copies of invoices of the vending of Purafect 4000 M, Purafect 2000 E and Purafect 4000 E. Since these documents only refer to

the final products, no conclusion can be drawn as to the method of production of the granules.

- 7.2 Therefore, D5 and D16 cannot take away novelty of Claim 1 referring to the method for producing the granules.
8. In appeal proceedings amended claims have been filed, document D19 was mentioned for the first time and in the proceedings before the first instance no decision was taken with regard to inventive step.

Therefore, in order not to deprive the Appellant of the possibility to have the case examined by two instances, the Board grants the Appellant's request for referring the case back to the department of first instance for further prosecution.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar

The Chairman

D. Magliano

P.-P. Bracke