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Datasheet for the decision of 16 November 2006

Case Number: T 1276/04 - 3.3.09

Application Number: 96924584.4

Publication Number: 0839170

IPC: C09J 167/04

Language of the proceedings: EN

Title of invention:
Nonwoven materials comprising biodegradable copolymers

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Metabolix, Inc.

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (main request) no"
"Inventive step (auxiliary request 1 and 2B) - no, unfair comparative test"
"Auxiliary request 2A - late filed - not admitted"

Decisions cited:
-

Catchword:
-

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Case Number: T 1276/04 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 16 November 2006

Appellant: (Opponent)	Metabolix, Inc. 21 Erie Street Cambridge, MA 02139 (US)
Representative:	Stevens, Ian Edward Eric Potter Clarkson LLP Park View House 58 The Ropewalk Nottingham NG1 5DD (GB)
Respondent: (Patent Proprietor)	THE PROCTER & GAMBLE COMPANY One Procter & Gamble Plaza Cincinnati, OH 45202 (US)
Representative:	Renard, Emmanuelle Cabinet Plasseraud 52 rue de la Victoire F-75440 Paris Cedex 09 (FR)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted 13 August 2004 concerning maintenance of European patent No. 0839170 in amended form.**

Composition of the Board:

Chairman: P. Kitzmantel
Members: J. Jardòn Álvarez
K. Garnett

Summary of Facts and Submissions

I. This decision concerns the appeals filed by the Patent Proprietor and the Opponent against the interlocutory decision of the Opposition Division finding European patent EP-B-0 839 170 in amended form to meet the requirements of the EPC.

II. The patent was based on the European patent application No. 96924584.4 in the name of THE PROCTER & GAMBLE COMPANY, which had been filed on 18 July 1996. The grant was announced on 17 October 2001 (Bulletin 2001/42) on the basis of 5 claims. Independent claim 1 read as follows:

"1. A nonwoven material comprising

a)fibers; and
b)an adhesive for bonding together said fibers, said adhesive comprising a biodegradable copolymer wherein the biodegradable copolymer comprises at least two randomly repeating monomer units wherein each randomly repeating monomer unit has the structure

$$-\left[-O-\ CH(R^4)-(CH_2)_n-C(=O)-\right]-$$

where R^4 is H, or C_1 to C_{19} alkyl, or C_2 to C_{19} alkenyl, and n is 1 to 4."

III. A Notice of Opposition was filed against the patent by Metabolix, Inc. on 16 July 2002. The Opponent requested the revocation of the patent in its full scope based on

Article 100(a) EPC (lack of novelty and inventive step) and Article 100(b) EPC (sufficiency of disclosure).

The opposition was supported *inter alia* by the following documents filed with the notice of opposition:

D1: WO - A - 91/13207

D3: Lauzier et al., volume 76, No. 5, Tappi Journal, May 1993, pages 71 to 77

In addition to these documents, the Opponent filed with letter dated 26 May 2004 the following documents:

D14: WO - A - 94/07940

D15: EP - A - 0 533 144 and

D16: Timm et al., Applied and Environmental Microbiology, Nov. 1990, pages 3360 to 3367.

The Patent Proprietor filed during the opposition proceedings the following experimental evidence:

E1: Annexes A to E filed with letter dated 2 June 2004

E2: Comparative Data filed with letter dated 21 June 2004.

IV. By its interlocutory decision announced orally on 2 July 2004 and issued in writing on 13 August 2004, the Opposition Division found that the patent as amended in accordance with the claims of the auxiliary request 2 filed by the Patent Proprietor with letter of

2 June 2004 met the requirements of the EPC, including in particular those concerning novelty, inventive step and sufficiency of disclosure.

As regards the subject-matter of Claim 1 of the main and the first auxiliary requests the Opposition Division was of the opinion that it lacked novelty having regard to the disclosure of D1. This document was considered to be novelty destroying because

(i) the latex compositions disclosed in D1 and Claim 1 of the main request corresponded to each other and because

(ii) the respective nonwovens were treated (dipped or impregnated) in the same manner.

However, the Opposition Division found that the subject-matter of the claims according to the second auxiliary request fulfilled the requirements of the EPC, because D1 did not disclose or suggest the claimed latex binder comprising a copolymer having the two repeating units in the claimed proportions.

The Opposition Division further decided not to admit into the proceedings:

- document D14 since it was *prima facie* not more relevant than the documents already on file,
- the experimental evidence E1 since the relation between the experimental data and the features of the nonwoven fabric/binder was unclear, and
- the experimental evidence E2 since the time span before the oral proceedings was too short for the Opponent to provide its own experimental data.

The Board notes that the reference in point 1 of the reasons of the Opposition Division's decision to D15 as not being admitted into the proceedings is a mistake and should read D14. This is confirmed by point 6.4 of the same decision, wherein D15 is discussed and by point 5 of the minutes of the oral proceedings wherein it is stated that D14 was the document not admitted into the proceedings.

V. On 13 October 2004 the Patentee (Appellant I) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 17 December 2004, Appellant I requested that the decision under appeal be set aside and that the patent be maintained with the set of claims of the main request, or with the sets of claims as specified in the auxiliary requests 1 and 2 all filed together with the Statements of Grounds of Appeal.

Appellant I also requested that the experimental evidence E1 and E2 filed during the opposition proceedings and considered as late-filed by the Opposition Division should now be admitted into the appeal proceedings.

VI. On the same day, 13 October 2004, the Opponent (Appellant II) also lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement of Grounds of Appeal filed on 13 December 2004, Appellant II requested the revocation

of the patent in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC) and insufficiency of disclosure (Article 100(b) EPC).

Appellant II also filed during the appeal proceedings the following documents:

With the Statement setting out the Grounds of Appeal:

D17: EP - A - 0 560 984

D17A: WO - 93/05824

D18: G. Kobayashi et al. "Biosynthesis and Characterisation of Poly(3-hydroxybutyrate-*co*-3-hydroxyhexanoate) from oils and fats by *Aeronomas* sp. OL-338 and *Aeronomas* sp. FA-440"; Studies in Polymer Science 12: Biodegradable Plastics and Polymers (ed: Y. Doi and K. Fakuda), 1994, Elsevier Science B.V., pages 410 to 416.

With letter dated 5 May 2005:

D19: US - 4 588 457;

D20: Satkowski et al in Biopolymers, Polyesters II, 3b (Volume Editors Y. Doi and A. Steinbüchel), 9 Physical and Processing Properties of Polyhydroxyalkanoate Copolymers, pages 231 to 263, Wiley-VCH, 2002;

D21: WO - 95/20614

With letter dated 13 October 2006:

D22: US - 5 536 564.

VII. In response to the Board's communication, issued on 22 August 2006 in preparation for the oral proceedings, Appellant I filed, with letter dated 10 October 2006, a main request and three auxiliary requests.

Claim 1 of the main request, which corresponds to Claim 1 of the main request on which the decision of the Opposition Division was based, reads as follows:

"1. A nonwoven material comprising fibers, said fibers being bound together by an adhesive to form said nonwoven material, said adhesive comprising a biodegradable copolymer wherein the biodegradable copolymer comprises at least two randomly repeating monomer units wherein each randomly repeating monomer unit has the structure

$$-\left[-O-\ CH(R^4)-(CH_2)_n-C(=O)-\right]-$$

where R^4 is H, or C_1 to C_{19} alkyl, or C_2 to C_{19} alkenyl, and n is 1 to 4."

Claim 1 of the auxiliary request 1 reads as follows:

"1. A nonwoven material comprising fibers, said fibers being bound together by an adhesive to form said nonwoven material, said adhesive comprising a biodegradable copolymer wherein the biodegradable copolymer comprises at least two randomly repeating

monomer units wherein the first monomer unit has the structure

$$-\left[-O-\ CH(R^1)-(CH_2)_n-C(=O)-\right]-$$

where R^1 is H, or C_1 to C_{19} alkyl and n is independently 1 or 2; the second monomer unit has the structure:

$$-\left[-O-\ CH(R^2)-CH_2-C(=O)-\right]-$$

where R^2 is C_3 to C_{19} alkyl, or C_3 to C_{19} alkenyl; and wherein at least 50% of the random repeating monomer units have the structure of the first monomer unit."

VIII. During the oral proceedings held on 16 November 2006, Appellant I withdrew its previous auxiliary requests 2 and 3 and filed two new auxiliary requests, requests 2A and 2B. Compared to the auxiliary request 1, the following amendments were made to these requests:

- Auxiliary request 2A. In Claim 1 the definition of R^1 has been limited to only C_1 alkyl.

- Auxiliary request 2B. In Claim 1 of this request in the first monomer unit R^1 is defined as "H or C_1 to C_2 alkyl" and n as "1 or 2" and in the second monomer unit R^2 is defined as C_3H_7.

IX. The arguments presented by Appellant I in its written submissions and at the oral proceedings may be summarized as follows:

– The Appellant argued that D1 was mainly concerned with paper, a material the person skilled in the art would not regard as a nonwoven construct and that the part of the disclosure of D1 relating to nonwovens did not clearly and unambiguously teach nonwovens whose fibres were bonded by a poly 3-hydroxalkanoate (PHA). All the examples in D1 related to films or paper coatings made from PHA, and there was no clear teaching in D1 of the manner by which the latex was introduced into the fibre construct or as to what function it performed therein. The same considerations applied to the other documents cited by the Opponent as novelty destroying, namely D3, D14 and D21.

– Concerning inventive step, Appellant I considered D1 as the closest prior art and argued that, given that this document essentially dealt with paper constructs significantly different from nonwovens by their much shorter fibre length, the skilled person would not contemplate using the same PHA as was used for coating paper for binding much longer fibres to nonwovens.

– In any case an inventive step should be acknowledged for the subject-matter of the auxiliary requests having regard to the unexpected results achieved with specific PHAs as shown in the experimental results E1 and E2.

X. The written and oral arguments of Appellant II may be summarized as follows:

– D1 was novelty destroying for the claimed subject-matter because it disclosed the use of the same latex as a binder for nonwovens, clearly meaning: binding together the fibres in order to consolidate the nonwoven structure. This use of a PHA latex as a binder for nonwovens was moreover also known from documents D3 and D14.

– The subject-matter of the auxiliary requests lacked an inventive step even taking account of the experimental evidence E1 and E2. The enormous modulus increase reported in E2 for the hexanoate-containing copolymer, as compared to the valerate-containing copolymers, was due to the melting of the former material at the test temperature and could not be taken therefore as a fair comparison supportive of an inventive step. In any case the experimental results in E2 could not demonstrate an unexpected effect for the claimed subject-matter because they compared copolymers comprising quite different amounts of the comonomers (valerate vs. hexanoate).

Moreover the skilled person was directed by D18 to the use poly(3-hydroxybutyrate-co-3-hydroxy-hexanoate) as a replacement for the latex compositions used in D1 and no inventive step could be seen in the application of this known measure to nonwoven films.

XI. Appellant I (Patent Proprietor) requested that:

– The decision under appeal be set aside.

– Auxiliary request 2A filed during the oral proceedings be admitted into the proceedings.

– The patent be maintained on the basis of the main request filed with its letter dated 10 October 2006 or alternatively on the basis of the first auxiliary request filed with the said letter, alternatively on the basis of Claims 1 to 3 of auxiliary request 2B filed during the oral proceedings together with Claims 4 and 5 of the second auxiliary request filed with the said letter of 10 October 2006.

Appellant II (Opponent) requested that:

– the decision under appeal be set aside and that the European patent be revoked.

Reasons for the Decision

1. The appeal is admissible.

2. *Procedural matters*

2.1 Admissibility of documents filed outside the opposition period

2.1.1 Of the several documents and the experimental evidence submitted outside the due time limits, the Board in

exercising its discretion under Article 114(1) EPC decided to admit E1, E2 and D18 into the proceedings. Although late filed, the high relevance of these documents justifies their admission into the proceedings at this stage.

As will be discussed in detail below, the experimental evidence E1 and E2 is of high relevance for the issue of inventive step of the claimed subject-matter. The arguments of Appellant I are essentially based on this experimental evidence, which compares the properties of the polymers used according to the claimed invention with those of the prior art.

Document D18 was filed by Appellant II in response to the Patentee's late filing of E1/E2 and is therefore also admitted into the proceedings.

2.1.2 In the Board's judgment, the disclosure in the documents D14, D17, D17A and D19 to D22 does not go beyond the disclosure in documents already on file. Thus, the Board decided that these documents were not sufficiently relevant to justify their admission into the proceedings at this late stage.

2.2 Admissibility of the auxiliary requests 2A and 2B

2.2.1 Appellant I filed auxiliary requests 2A and 2B at a very late stage, namely during the oral proceedings before the Board of Appeal. Auxiliary requests filed at such a late stage of the proceedings are usually only admitted into the appeal proceedings under exceptional circumstances.

2.2.2 Auxiliary request 2A was filed after the Board had deliberated upon the allowability of auxiliary request 1. Appellant I justified the late filing of this request as being intended to defend the patent by means of a subject-matter in between the broader definitions of R^1 and R^2 in auxiliary request 1 and the narrower definitions in auxiliary request 2.

The Board sees no reason to admit this request at this stage. The parties were requested by the Board to make any submissions at least one month before the oral proceedings. Moreover, during the discussion of the auxiliary request 1 in the oral proceedings no new matter arose which had not been addressed in the written proceedings. The Appellant I should have been prepared for a possible negative decision of the Board on auxiliary request 1 and could have filed, if it had wished so, a further auxiliary request along the lines of this auxiliary request 2A in due time as a precautionary measure.

In summary, there are no exceptional circumstances justifying the late filing of auxiliary request 2A and consequently the Board exercises its discretion not to admit it into the proceedings.

2.2.3 Auxiliary request 2B was filed during the oral proceedings as a reaction to objections under Article 123(2) EPC of Appellant II and the Board concerning previous auxiliary request 2. These objections were raised for the first time during the oral proceedings and the amendments made to auxiliary request 2 were made to overcome these new objections in order to expedite the proceedings. The amendments made

do not substantially change the claimed subject-matter as they only amend the definition of R^1 to bring it into line with the application as originally filed.

Under these circumstances, auxiliary request 2B was, in spite of its late submission, admitted into the proceedings.

MAIN REQUEST

3. *Novelty (Article 54 EPC)*

3.1 Claim 1 is directed to a nonwoven material comprising fibres bound together by an adhesive to form the nonwoven material, wherein the adhesive comprises biodegradable poly-ß-hydroxyalkanoate (PHA) copolymers having the structure $-\left[-O-\ CH(R^4)-(CH_2)_n-C(=O)-\right]-$, where R^4 is H, or C_1 to C_{19} alkyl, or C_2 to C_{19} alkenyl, and n is 1 to 4.

3.2 The novelty of Claim 1 of the main request was contested by Appellant II having regard to D1, D3 and D14.

3.2.1 Document D1 discloses in Claim 11 a method of treating a fibre construct comprising applying to the fibre construct a latex comprising a colloidal suspension in water of essentially non-crystalline particles of a ß-hydroxyalkanoate polymer or copolymer (see also Claim 1), and drying the resulting fibre construct. According to Claim 12 said fibre construct is paper or a nonwoven fabric.

The materials obtained by this method of treatment anticipate the subject-matter of Claim 1 of the main request which is therefore not novel.

3.2.2 It is undisputed that the definition of the PHAs used in D1 (see page 5, last paragraph to page 6, line 7 and page 8, lines 3 to 17) overlaps to a great extent that of the PHAs of Claim 1 of the main request, which definition cannot therefore be considered as a distinguishing feature over the disclosure of D1.

3.2.3 In order to justify the novelty of the subject-matter of Claim 1, Appellant I emphasized that paper was not regarded in the technical field of nonwovens as a nonwoven construct and filed two definitions of the term "nonwoven", namely that according to the Association of the Nonwoven Fabrics Industry and also the European Disposables and Nonwovens Association, in order to show that the term "nonwoven" excluded papers. In this respect Appellant I contended that even if a nonwoven was constituted by paper fibres these had to be long fibres derived from unrefined wood pulp contrary to the use of short paper fibres derived from refined wood pulp which were constitutive of "genuine" paper.

3.2.4 The Board notes, however, that even if the term nonwoven as used in certain fields might exclude papers, the present application as filed does not make this distinction, nor is this derivable from D1 which - although concentrating on paper - clearly also embraces the use of nonwovens (see page 3, first paragraph; page 4, third paragraph and Claim 12).

Thus, the specification of the patent in suit clearly includes the use of paper fibres as the fibrous materials that may be used in the nonwovens of the invention (see [0059]) and in the articles prepared from such nonwovens (see [0090]), and one of the preferred embodiments of the patent, example 8, is even directed to the manufacture of a nonwoven using refined (i.e. "short") paper fibres (refined northern Kraft pulp). Appellant I's expressed wish, during the oral proceedings, to disregard this part of the patent's disclosure as erroneous cannot detract from the fact that according to the original disclosure, the term nonwoven included paper-type constructs.

3.2.5 The Board can also not accept the argument of Appellant I that a distinction could be seen in the fact that the paper fibres of D1 were bonded to each other so completely that the entire sheet comprised a "solid" unit, while the fibres according to Claim 1 were only loosely bonded by 'spot bonding'.

Claim 1 is not limited to any specific method of bonding which would result in different bonding characteristic of the fibres as compared to D1; it merely states that the fibres are "bound together by an adhesive". It is to be noted in this context that the same bonding methods as used in the patent (cf. [0085] and [0086]) are also used in D1 (page 15, line 12 to page 17, line 22).

3.3 For these reasons the subject-matter of Claim 1 according to the main request lacks novelty having regard to the disclosure of document D1. There is thus

no need to go into Appellant II's lack of novelty objections with regard to D3 and D14.

AUXILIARY REQUEST 1

4. *Novelty (Article 54 EPC)*

The claims according to the auxiliary request 1 are novel because there are now used, as copolymers, poly-ß-hydroxyalkanoates having at least six carbon atoms (cf. R^2 is C_3 to C_{19} alkyl or alkenyl), which are not specifically disclosed in D1. As the novelty of this subject-matter was also acknowledged by Appellant II, no further comments are needed.

5. *Inventive step (Article 56 EPC)*

5.1 Closest prior art

5.1.1 The Board considers in agreement with the decision under appeal that the closest prior art is represented by document D1.

5.1.2 As already discussed above under 3.2.1, D1 discloses the treatment of fibre constructs (paper or nonwoven fabrics) with latex comprising non-crystalline particles of a polymer or copolymer of poly-ß-hydroxyalkanoates to produce self-supporting films or papers which are biodegradable and also readily recyclable.

The preferred poly-ß-hydroxyalkanoates are poly-ß-hydroxybutyrate, PHB, poly-ß-hydroxyvalerate, PHV, and

a copolymer of both, poly(3-hydroxybutyrate-co-3-hydroxyvalerate), PHB-V (see Claim 3 and examples).

5.1.3 Thus, the subject-matter of Claim 1 of the auxiliary request 1 differs from the disclosure of D1 by the use of a comonomer having at least six carbon atoms, for instance poly(3-hydroxybutyrate-co-hydroxyhexanoate), PHB-Hx.

5.2 Problem to be solved

5.2.1 The patent in suit does not attribute any specific effect to this distinguishing feature. The patent refers in paragraphs [0003] and [0007] to the fact that the prior art polymers are non-compostable and that there is a need to replace non-compostable materials with compostable materials to provide disposable products which can biodegrade. However, these disadvantages of the prior art do not apply to the products of D1, which are also biodegradable and easily recyclable (D1, page 4, lines 2 to 7).

5.2.2 Appellant I filed during the opposition proceedings experimental data and results, E1 and E2, in order to show surprisingly improved properties, in particular higher tensile strength, of the nonwoven materials obtained using the adhesive polymers of the invention (PHB-Hx) when compared to those using the adhesive polymers of D1 (PHB-V).

Thus, the first example of E2 shows that nonwovens prepared using PHB-Hx (89:11) according to the patent have higher peak load values (peak load before failure of 17431 grams force) than nonwovens prepared using the

copolymers of D1 (PHB-V (91.9:8.1), which showed a peak load before failure of only 1189 grams force). Also the second example of E2 shows a higher force before breaking in the case of a nonwoven prepared according to the patent in suit as compared with a nonwoven prepared using a polymer of D1.

The Appellant II argued that said data did not represent a fair comparison because the different results achieved were only due to the conditions selected for the preparation of the nonwovens. The experiments were conducted at 120 °C, a temperature at which the PHB-Hx copolymer of the invention would melt (melting point about 120 °C), whilst the PHB-V of D1 would not (melting point about 165 °C). Thus, the huge increase of tensile strength in the first example of E2 was due to the experimental conditions chosen, at which the lower melting PHB-Hx is able to establish a firm bond whereas the higher melting PHB-V is unable to establish a reasonable bond.

5.2.3 The Board agrees with these arguments of Appellant II and concludes that Appellant I has not convincingly shown that the demonstrated increase of the tensile strength was the result of a fair comparison; given that at the test temperature of 120 °C the PHB-V cannot melt sufficiently to establish a firm bond between the fibres the result achieved is just what the skilled person would expect. That this does not mean that PHB-V is an unsuitable adhesive for fibres is clear from its use as preferred copolymer according to D1 (page 8, 3rd paragraph from the bottom). That the choice of the right temperature conditions is crucial for the properties to be achieved is also clearly disclosed in

D1 (page 7, lines 5 to 14; see also the reference to document D18 in point 5.4.2 below).

Moreover, the results for the first example of E2 in which similar amounts of comonomers were used (11% *versus* 8,1%) and which show a rather dramatic increase in tensile strength of the PHB-Hx is in contradiction with the further experimental evidence filed by Appellant I. Thus Annex B of E1 shows that relatively small variations of the tensile properties are attained when the chain length of the monomers is increased by a methylene group.

This is further evidence in favour of Appellant II's contention that the enormous increase in tensile strength reported from this experiment is due to the special experimental conditions chosen, in particular the temperature conditions.

Neither is the second experiment of E2 a fair comparison; in this case additional differences hamper the comparison: i.e. the different comonomer contents of the respective PHAs (the amount of 3-hydroxyvalerate doubles the amount of 3-hydroxy-hexanoate) as well as the different PHA amounts applied to the nonwoven (50% *versus* 60%). These differences make it quite impossible to relate the reported effects to the structural differences between the two PHAs being compared (i.e. the different number of methylene groups).

5.2.4 For these reasons the Board considers that the experimental evidence provided by Appellant I is not adequate to establish that the feature distinguishing the subject-matter of the invention from D1's

disclosure, i.e. the use of a comonomer having at least one more methylene group, is causative of any surprising technical effect. Therefore, these comparative examples must be disregarded in the assessment of inventive step.

5.2.5 Thus, in the absence of any credible unexpected effect over the disclosure of D1, the objective technical problem to be solved by the patent in suit is to provide alternative nonwoven materials comprising polyhydroxyalkanoates.

5.3 Solution to the problem

5.3.1 The solution to this problem is provided by the claimed nonwovens prepared by using a PHA polymer including a comonomer having at least six carbon atoms.

5.3.2 The examples in the patent in suit and the experimental evidence discussed above show that the above mentioned problem has been credibly solved. This was not challenged by Appellant II.

5.4 Inventive step

5.4.1 The question which remains to be decided is whether this solution involves an inventive step.

5.4.2 Document D18 describes the biosynthesis and characterization of PHB-Hx. This polymer is said to be a cheaper alternative to the known PHA copolymers used in D1 such as PHB and PHV (see page 410, Summary and Introduction). In Figure 3 and Table 6 the melting

point, crystallinity and thermal properties of PHB-Hx and PHB-V are given.

5.4.3 It was thus known from D18 that these copolymers could be used as a replacement for the known copolymers such as PHB-V. This information provides the skilled person with the incentive to try the copolymers of D18 in the treatment of the fabrics of D1 and thus arrive at the subject-matter of Claim 1 of the present request.

For these reasons, the subject-matter of Claim 1 of the auxiliary request 1 lacks an inventive step (Article 56 EPC).

AUXILIARY REQUEST 2B

6. *Inventive step (Article 56 EPC)*

6.1 The subject-matter of auxiliary request 2B differs from the subject-matter of the auxiliary request by the further limitation of the copolymers to be used but still includes the copolymer PHB-Hx discussed above.

6.2 Under these circumstances, the reasoning in relation to the auxiliary request 1 applies *mutatis mutandis* to the subject-matter of the auxiliary request 2B, which therefore does not involve an inventive step (Article 56 EPC).

7. In summary, none of the requests of Appellant I relates to patentable subject-matter.

Order

For these reasons it is decided that:

1. Auxiliary request 2A is not admitted into the proceedings.

2. The decision under appeal is set aside.

3. The patent is revoked.

The Registrar: The Chairman:

G. Röhn P. Kitzmantel