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**Datasheet for the decision
of 29 January 2015**

Case Number: T 0249/13 - 3.3.09
Application Number: 06733777.4
Publication Number: 1844091
IPC: C08J7/04, C08L29/04, B32B27/30,
C08J5/18
Language of the proceedings: EN

Title of invention:

WATER-SOLUBLE FILM WITH RESISTANCE TO SOLUBILITY PRIOR TO
BEING IMMERSED IN WATER

Patent Proprietor:

The Procter & Gamble Company

Opponents:

Reckitt Benckiser (UK) Limited
UNILEVER PLC / UNILEVER NV

Headword:

Relevant legal provisions:

EPC Art. 54, 56
RPBA Art. 13(1)

Keyword:

Main request: novelty - (no)
Auxiliary request 1: novelty - (yes)
Auxiliary request 1: inventive step - (yes)
Admissibility of late-filed objection - (no)

Decisions cited:

Catchword:



**Beschwerdekammern
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Chambres de recours**

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Case Number: T 0249/13 - 3.3.09

**D E C I S I O N
of Technical Board of Appeal 3.3.09
of 29 January 2015**

Appellant:
(Patent Proprietor)

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Appellant:
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(Opponents 02)

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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 December 2012 concerning maintenance of the
European Patent No. 1844091 in amended form.**

Composition of the Board:

Chairman	W. Sieber
Members:	J. Jardón Álvarez
	K. Garnett

Summary of Facts and Submissions

I. This decision concerns the appeals filed by the patent proprietor and opponent 01 against the interlocutory decision of the opposition division that European patent EP-B-1 844 091 in the name of The Procter and Gamble Company as amended met the requirements of the EPC.

For simplicity the board will continue to refer to the parties in the appeal proceedings as the patent proprietor, opponent 01 and opponents 02, respectively.

II. Two oppositions had been filed by Reckitt Benckiser (UK) Limited (opponent 01) and by Unilever PLC / Unilever N.V. (opponents 02) requesting revocation of the patent in its entirety on the grounds that the claimed subject-matter was neither novel nor inventive (Article 100(a) EPC) and that the patent did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

The documents cited during the opposition proceedings included:

D2: US 5 509 913 A;

D3: EP 0 457 600 A2;

D4: WO 03/076513 A1;

D6: WO 02/26896 A2;

D13: Encyclopedia of Polymer Science and Technology, vol.8, published online on 15 March 2002, pages 399 to 437; and

D14: Experimental report filed by the patent proprietor with letter dated 24 August 2012, (1 page), non-dated.

III. The decision of the opposition division announced orally on 24 October 2012 and issued in writing on 3 December 2012 was based on a main request, and a first and a second auxiliary request. The relevant requests for this decision are the first and the second auxiliary requests.

Claim 1 of auxiliary request 1 reads as follows:

"1. A water-soluble film that is resistant to solubility prior to being immersed in water, said water-soluble film having a first surfaces (*sic*) a second surface, and a thickness between said first and second surfaces, said water-soluble film comprising:

a film-forming composition that is formed into said film, said film-forming composition comprising a primary water-soluble film-forming material that at least partially comprises polyvinyl alcohol, preferably wherein said primary water-soluble film-forming material comprises from 50% to 95%, more preferably from 50% to 85% of said water-soluble film, by weight, on a dry basis after said film is formed, and

a salt distributed more closely to at least one of said first and second surfaces than throughout the thickness of said water-soluble film, preferably

wherein said salt comprises from 1% to 15% of said water-soluble film, by weight; wherein said salt is selected from the group consisting of: sodium sulfate, sodium citrate, sodium tripolyphosphate, potassium citrate, potassium tripolyphosphate and mixtures thereof."

Claim 1 of auxiliary request 2 differs from claim 1 of auxiliary request 1 only in that the word "preferably" before the sentence "wherein said salt comprises from 1% to 15% of said water-soluble film, by weight" has been deleted.

The opposition division's view can be summarized as follows:

- The opposition division rejected the main request of the patent proprietor for lack of compliance with the requirements of Article 83 EPC and the first auxiliary request for lack of novelty over the disclosure of D3 having regard to the disclosure of example 2 when taken in combination with the disclosure of column 5, lines 10 to 20.

- The opposition division found that the claims of the second auxiliary request fulfilled the requirements of the EPC. In particular the opposition division found that the claims of this request were novel over the disclosure of D3 (twofold selection) and involved an inventive step starting from D6 as closest prior-art document. In its view the problem of further improving the resistance of water-soluble films comprising polyvinyl alcohol to the exposure of small amounts of water was credibly solved by the use of a salt as defined in claim 1. This solution was not

obvious in view of D6 alone or when taken in combination with any of D2, D3, D4 or D13.

- IV. Appeals against this decision were filed on 30 January 2013 by opponent 01 and on 8 February 2013 by the patent proprietor. The respective appeal fees were paid in due time.
- V. In its statement of grounds of appeal filed on 10 April 2013, opponent 01 requested that the decision under appeal be set aside and the patent be revoked.
- VI. The patent proprietor filed its statement of grounds of appeal on 12 April 2013 including a main request and auxiliary requests 1 to 5.
- VII. Further submissions were filed:
- a) By opponent 01 on 7 August 2013 including the following document:

D15: G.C. Nutting, "Effect of electrolytes on the viscosity of potato starch pastes", non-dated, no bibliographical reference, 12 pages.
 - b) By opponents 02 on 19 August 2013 including the following document:

D16: Solubility table from Wikipedia, non-dated, 9 pages.
 - c) By the patent proprietor on 28 August 2013 and on 23 June 2014, including auxiliary requests 6 to 13 and the following further evidence:

D17: Experimental report filed with letter dated 23 June 2014, non-dated, 2 pages.

- VIII. In response to the board's communication, issued on 7 August 2014 in preparation for the oral proceedings, the patent proprietor on 22 December 2014 filed a new main request and auxiliary requests 1 to 9 to replace its previous requests on file.
- IX. On 29 January 2015 oral proceedings were held before the board in the absence of opponent 01. It had announced by letter dated 23 January 2015 that it would not be represented at the oral proceedings in view of the fact that the scope of the patent proprietor's requests had now been significantly limited.

The proprietor's requests discussed during the oral proceedings before the board were:

- the main request (corresponding to auxiliary request 1 before the opposition division (point III above), and
 - auxiliary request 1 (corresponding to auxiliary request 2 found allowable by the opposition (point III above), ie dismissal of opponent's 01 appeal).
- X. The arguments presented by the patent proprietor in its written submissions and at the oral proceedings, insofar as they are relevant for the present decision, may be summarised as follows:
- D3 did not contain a clear and unambiguous disclosure of all the features of claim 1 of the main request in combination. To arrive at an

embodiment as claimed two selections were necessary. The first choice to be made was to follow the example, which generally mentions the presence of water-soluble filler. Then the skilled person had also to select sodium sulphate from the list of water-soluble fillers, bearing in mind that none of the other water-soluble fillers listed in D3 falls within the scope of the claim.

- Claim 1 of auxiliary request 1 was further distinguished from the disclosure of D3 in that it also required that the salt be present in the amount of 1-15% by weight. Thus a three-fold selection needed to be made to arrive at an embodiment within the scope of claim 1 of this request.

- Concerning inventive step, D6 was the closest prior-art document. The problem addressed by the invention was the provision of a water-soluble film (which as result can dissolve in water in use) but which is nevertheless resistant to contact with small amounts of water. The solution provided by claim 1, namely the use of a defined salt distributed more closely to at least one of the surfaces was not derivable from the cited prior art. In particular D13 related to the amount of sodium sulphate needed for the precipitation of polyvinyl alcohol and was not related to the problem underlying the invention. On the other hand, the combination of D6 with D13 was only made with hindsight.

XI. The relevant written arguments of opponent 01 may be summarised as follows:

- Document D3 was novelty destroying for the subject-matter of claim 1 of both the main request and auxiliary request 1 since the selection of one salt from a list, combined with the selection of a very substantial and arbitrary part of a preferred concentration range for the listed salts could not confer novelty on the claim.

- The claimed subject-matter lacked inventive step in view of the teaching of D6 alone. Starting from D6 as the closest prior-art document, the asserted improvement of the resistance to exposure to small amounts of water of the films of D6 had not been solved across the whole scope of claim 1. Moreover claim 1 encompassed powders that were obvious alternatives to the preferred embodiments used in D6.

XII. The relevant arguments of opponents 02 presented during the oral proceedings may be summarized as follows:

- Opponents 02 supported the written arguments of opponent 01 and further argued that the subject-matter of claim 1 lacked inventive step in view of the combined teaching of documents D6 and D13.

- Additionally, they requested that an amendment to their case be admitted to argue inventive step starting from D3 as representing the closest prior art. The late filing of this argument was justified in that they became aware of the close relationship of D3 to the claimed subject-matter only during the novelty discussion in the oral proceedings.

XIII. The patent proprietor requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request as filed with its letter dated 22 December 2014, alternatively that the appeal of opponent 01 be dismissed (auxiliary request 1), alternatively that the patent be maintained on the basis of one of the auxiliary requests 2 to 9, all as filed with its letter dated 22 December 2014.

Opponent 01 requested that the decision under appeal be set aside and the patent be revoked.

Opponents 02 requested that the proprietor's appeal be dismissed.

Reasons for the Decision

1. The appeals are admissible.

MAIN REQUEST

2. *Novelty*

2.1 The subject-matter of claim 1 is essentially directed to a water-soluble film of a given thickness comprising:

- a) a water-soluble film-forming material that at least partially comprises polyvinyl alcohol, and
- b) a salt distributed more closely to one of the surfaces than throughout the thickness of the water-soluble film,

- c) wherein the salt is selected from the group consisting of: sodium sulphate, sodium citrate, sodium tripolyphosphate, potassium citrate, potassium tripolyphosphate and mixtures thereof.

2.2 The opposition division denied the novelty of this claim in view of the disclosure of example 2 of D3 when read in combination with the disclosure on column 5, lines 11 to 19.

2.2.1 The first sentence of Example 2 of D3 reads: "A film like that of Example 1 is made, but including a water soluble filler in the inner layer" (column 3, lines 40 to 41). The film of example 1 referred to in this sentence is a three layer water-soluble film having a total thickness of about 4.0 mils with an outer layer having a thickness of about 1 mil of fully hydrolysed polyvinyl alcohol; an intermediate layer having a thickness of about 2 mils of partially hydrolysed polyvinyl alcohol; and an inner layer having a thickness of about 1 mil of methacrylic acid/ethyl acrylate copolymer (column 3, lines 21 to 36).

2.2.2 The water-soluble fillers disclosed in D3 include any material which is water soluble and as preferred materials are salts such as sodium carbonate; sodium sulphate; sodium chloride; potassium carbonate; potassium sulphate; and potassium chloride (column 5, lines 11 to 19).

2.2.3 As correctly pointed out in the appealed decision, the nature of the water-soluble filler is not disclosed in example 2 of D3. However, the skilled person would read example 2 in connection with column 5, lines 11 to 19, which discloses sodium sulphate as one of the preferred water-soluble fillers (selection out of one list). In

other words, the skilled person when putting into practice the disclosure of example 2 has to turn to the fillers disclosed in the above cited passage of D3, and would thus arrive at an embodiment falling within the scope of claim 1, the subject-matter of which therefore lacks novelty.

2.2.4 The patent proprietor argued that the subject-matter of claim 1 was novel over D3 because D3 also includes one example without a filler, and thus the skilled person had to make a further selection, namely, first select the example which generally mentions a filler and then select sodium sulphate from the list of water-soluble fillers.

2.2.5 The board cannot accept this argument. There is no first selection of example 2 out of a list of examples. The teaching of D3 already envisages in individualised form two specific embodiments:

- the films of example 1 without filler, and
- the films of example 2 with a filler.

The further teaching of D3 is that in the embodiment of example 2 each of the fillers listed in column 5 (the complete list) can be used.

There is therefore no twofold selection within the teaching of D3 but a clear and unambiguous disclosure of an embodiment within the scope of claim 1.

2.3 Consequently, the main request is not allowable.

AUXILIARY REQUEST 1

3. *Preliminary remark*

3.1 The board agrees with the finding in the appealed decision that the claims of auxiliary request 1 fulfill the requirements of Articles 83, 84 and 123 EPC. As this finding has not been contested by the opponents during the appeal proceedings, there is no need for the board to deal with these issues.

4. *Novelty*

4.1 The subject-matter of claim 1 of auxiliary request 1 differs from the subject-matter of claim 1 of the main request (see point 2.1 above) in that it further requires that:

d) the content of the salt is from 1% to 15% by weight.

4.2 By this amendment the situation has changed compared to the main request in that now a twofold selection is required to arrive at an embodiment within the scope of the claim. As discussed above in relation to the main request, in example 2 of D3 the filler is not specified. There is also no disclosure in the example of the amount of filler used. The amount of filler is generally defined as being between 0.01% and 20% by total weight of the layer or, alternatively, as 0.01% to 20% by weight of the film (see column 5, lines 27 to 33).

4.3 Thus, to arrive at an embodiment falling within the scope of claim 1, it is now necessary to select first sodium sulphate from the list of fillers, and then to

select a concentration of between 1 and 15% from the broader range of D3. This twofold selection and the resulting specific combination of features is not foreshadowed in D3.

4.4 Opponent 01 argued that in a situation like the present one where one selection made from one list is combined with one sub-range selected from one broader range, further considerations should be taken into account for the assessment of novelty, for instance whether or not the sub-range is narrow compared to the known range, sufficiently far removed from the examples, or an arbitrary choice.

4.5 It is however established jurisprudence of the boards of appeal of the EPO that subject-matter obtained by selecting a specific combination of two different technical features from the range of possibilities disclosed in a prior-art document for these features is regarded as a new selection. The new element is attributable to the fact that the specific combination or combinations actually selected from the wide range of all theoretically possible combinations have not been disclosed in individualised form in the prior-art document. The board sees no reason in the present case to deviate from this well-established practice and to propose further criteria in order to acknowledge novelty.

4.6 For these reasons the board concludes that the subject-matter of claim 1 of auxiliary request 1 is novel with regard to the disclosure of D3.

5. *Inventive step*

5.1 The present invention relates to a water-soluble film for use as packaging materials, such as pouches or sachets for e.g. detergent compositions. The pouches hold the composition until it is desired to release it from the pouch, for instance by immersion in water. The invention aims to reduce the tendency of known water-soluble films to dissolve and/or leak when exposed to droplets of water (see paragraph [0005] of the patent specification).

Claim 1 is directed to a water-soluble film comprising polyvinyl alcohol and it is essentially characterized by the incorporation of a specific salt - in a given concentration - close to the surface of the film.

5.2 Closest prior art

5.2.1 Document D6 was agreed by all the parties during the opposition proceedings as representing the closest prior art because it deals with the same problem as the patent in suit and has the most technical features in common with the invention.

No other document was used by the parties during the written appeal proceedings as closest prior art. Only at the oral proceedings before the board did opponents 02 argue that D3 could also be taken as the closest prior-art document and request an amendment to their case to present this argument. However, this amendment to opponents' 02 case was not admitted into the proceedings (see point 6 below) so that D6 remains the relevant closest prior-art document for consideration.

5.2.2 D6 relates to water-soluble packages comprising a liquid detergent enclosed within a water-soluble film. According to page 2, lines 11 to 17, known water-soluble packages have some drawbacks. First, as the packages are "susceptible to moisture", the type of composition which can be contained within the package is limited. Secondly, the storage and transport of such packages must be carefully controlled as humidity in the atmosphere can weaken the structural integrity of the packages.

D6 aims to overcome these drawbacks by dusting the package with a powder, thereby depositing powder on the exposed surface of the package (see claim 1). The powder has a particle size of between 0.1 and 20 microns (page 3, lines 19 to 21). As suitable powders, talc, calcium stearate, zinc and starch are mentioned (see page 3, lines 21 to 25; see also claim 6 and the examples).

5.3 Problem to be solved and its solution

5.3.1 According to the patent proprietor, the films of D6 still tend to dissolve and/or leak when in contact with water droplets. During the opposition proceedings the patent proprietor had filed an experimental report (D14) which demonstrated that other materials, in particular talc as disclosed in D6, do not have the same effect. The results of the water droplet resistance test carried out in D14 indicates that water-soluble pouches treated with talc were not resistant to premature pouch dissolution, and leaked (see D14, Table A).

5.3.2 Thus, the objective technical problem to be solved by the patent is to be seen in the provision of an

improved water-soluble film, suitable for making into a water-soluble pouch, that can resist dissolution and/or leakage after exposure to small amounts of water but is nevertheless capable of dissolving rapidly when immersed in an aqueous solution.

- 5.3.3 In view of D14, the examples in the patent, which demonstrate that the application of sodium sulphate as the salt improves resistance to leakage, and the further experimental evidence D17 filed during the appeal proceedings exemplifying the other salts covered by claim 1, the board is satisfied that this problem has been credibly solved.

This finding was not contested by the opponents.

5.4 Obviousness

- 5.4.1 It remains to be decided whether the above solution is obvious in view of the cited prior art.
- 5.4.2 D6 itself does not contain any indication as to the use of a salt as claimed in claim 1. The powders used in D6 are defined as inert, and ideally dispersible in water (page 3, lines 25 to 26), and the most preferred powder is talc (see page 13, lines 11-13 and 26-27). There is no suggestion in D6 of using any salt as now claimed in order to improve the resistance of the film after exposure to small amounts of water.
- 5.4.3 The board cannot accept the argument of opponent 01 that the salts used in claim 1 are all available in powder form and would be an obvious alternative to those exemplified in D6. As explained above, the salts now required in claim 1 improve the resistance to

premature leakage when compared with the powders used in D6. There is no hint in D6 to this improvement.

5.4.4 The board can also not accept the argument of opponents 02 that the claimed subject-matter would be obvious in view of D6 when combined with the teaching of D13.

5.4.5 D13 is a review article dealing with the properties, manufacture and use of vinyl alcohol polymers. The passages of D13 cited by opponents 02, namely table 2 and the penultimate paragraph of page 428, are not at all linked to the problem of improving water resistance of polyvinyl alcohol films.

It can be seen from table 2 that polyvinyl alcohol solutions exhibit high tolerance towards many electrolytes and that the minimum concentration of sodium sulphate for precipitation of a 5% polyvinyl alcohol solution is 50 g/L (see also page 404, first full paragraph). Furthermore, the penultimate paragraph of page 428 discloses that polyvinyl alcohol fibres are usually spun by a wet process employing a concentrated aqueous solution of sodium sulphate as the coagulating bath.

The argument of opponents 02 that these passages would suggest the adding of sodium sulphate to the films of D6 to improve their resistance is clearly made with hindsight. The passages relied upon by opponents 02 do not deal with the use of sodium sulphate to improve any property of polyvinyl alcohol films and they give no hint about how to solve the problem underlying the present invention.

5.4.6 For these reasons the subject-matter of claim 1 of auxiliary request 1 involves an inventive step as required by Article 56 EPC.

6. *Opponents 02 request to amend their case*

6.1 During the oral proceedings before the board, opponents 02 requested an amendment to their case so as to make an inventive step attack based on D3 as representing the closest prior art.

6.2 Article 12(2) RPBA requires that the statement of grounds of appeal and the reply contains the parties complete case. In their reply to the grounds of appeal of the patent proprietor opponents 02 did not deal with the issue of inventive step at all. It appears that opponents 02 accepted the conclusion of the opposition division concerning inventive step (including D6 being the closest prior art).

6.3 The board's communication in preparation for oral proceedings summarised the points to be discussed during the oral proceedings and, in relation to inventive step, it was *inter alia* stated that "According to point 5.5.1.1 of the appealed decision, D6 was agreed as closest prior-art document" and that the issue of inventive step would be discussed on the basis of the problem-solution approach.

6.4 No reply to this communication was filed by opponents 02.

6.5 Opponents' 02 request to amend their case during the oral proceedings was made at a very late stage of the proceedings without any good reason being given as to why the attack had not been made earlier (see point

XII, second paragraph, above, for the only reason given). Any objections which opponents 02 wanted to rely on should have been filed with the reply to the statement of grounds of appeal, or at the latest as part of a written reply to the board's communication.

- 6.5.1 Although it is correct that opponent 01 in its statement of grounds of appeal mentioned that it maintained an alternative inventive step argument based on D3, this objection was not developed in either the statement of grounds of appeal or the further reply of opponent 01.
- 6.5.2 The board can also not accept the reason that opponents 02 only became aware of the relevance of D3 for inventive step during the oral proceedings before the board. This document had already been discussed during the opposition proceedings and in the written submissions of the parties in the appeal proceedings.
- 6.5.3 Thus this objection of opponents 02 made during the oral proceedings amounted to a new objection raised for the first time at the oral proceedings.
- 6.6 Both the patent proprietor and the board could have been expected to prepare for the oral proceedings on the basis of the statements of the parties cases as they then stood and as summarised in the board's communication. It was thus not procedurally expedient or fair to allow opponents 02 to alter their case in this way.
- 6.7 Accordingly, the board exercised its discretion under Article 13(1) RPBA and did not admit the requested amendment to opponents 02's case into the proceedings.

AUXILIARY REQUESTS 2 TO 9

7. As auxiliary request 1 of the patent proprietor is allowable, there is no need for the board to deal with the further auxiliary requests.

Order

For these reasons it is decided that:

The appeals are dismissed.

The Registrar:

The Chairman:



M. Cañueto Carbajo

W. Sieber

Decision electronically authenticated