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**Datasheet for the decision  
of 16 December 2014**

**Case Number:** T 2080/11 - 3.3.06

**Application Number:** 00993324.3

**Publication Number:** 1235895

**IPC:** C11D3/37, C11D3/22

**Language of the proceedings:** EN

**Title of invention:**  
USE OF POLYMERIC MATERIAL IN THE TREATMENT OF HARD SURFACES

**Patent Proprietors:**  
Unilever N.V. / Unilever PLC

**Opponent:**  
The Procter & Gamble Company

**Headword:**  
Use of polymeric material in the treatment of hard surfaces/  
Unilever

**Relevant legal provisions:**  
EPC Art. 100(c)

**Keyword:**  
Amendments - extension beyond the content of the application  
as filed (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern  
Boards of Appeal  
Chambres de recours**

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Case Number: T 2080/11 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 16 December 2014**

**Appellant:** The Procter & Gamble Company  
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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
13 July 2011 concerning maintenance of the  
European Patent No. 1235895 in amended form.**

**Composition of the Board:**

**Chairman**            B. Czech  
**Members:**            G. Santavicca  
                             U. Lokys

## Summary of Facts and Submissions

- I. The appeal lies from the interlocutory decision of the Opposition Division concerning maintenance of the patent in amended form.
- II. Claim 1 according to the Request held allowable by the Opposition Division (then pending First Auxiliary Request) is identical to Claim 1 as granted and reads as follows (amendments to Claim 1 of the application as filed made apparent by the Board):
- "1. The use of a polymeric material to reduce heterogenous nucleation of calcium and magnesium salts at a hard surface comprising depositing ~~the polymeric material~~ onto the hard surface **a polymeric material which is a natural polymer modified with nitrogen containing species and wherein furthermore the polymeric material has a weight average molecular weight greater than 10,000 and has cationic groups or groups which become cationic at the pH of use.**"*
- III. The patent had been opposed in its entirety *inter alia* on the grounds of Articles 100 (c) EPC.
- IV. In the decision under appeal, the Opposition Division came *inter alia* to the conclusion that Claim 1 as granted met the requirements of Article 123(2) EPC.
- V. In its statement setting out the grounds of appeal, the Appellant (Opponent) attacked *inter alia* the finding in the decision regarding compliance with Article 123(2) EPC.
- VI. In its response to the statement setting out the grounds of appeal, the Respondent rebutted the

objections raised, maintaining *inter alia* that Claim 1 at issue met the requirements of Article 123(2) EPC.

VII. At the oral proceedings held on 16 December 2014, the debate focussed on the issue under Article 100(c) EPC.

VIII. The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent No. 1 235 895 be revoked.

The Respondents (Patent Proprietors) requested that the appeal be dismissed.

IX. The arguments of the Appellant of relevance for the decision can be summarised as follows:

- a) Claim 1 at issue contained various features incorporated by way of amendments made before grant, including the features such as "*natural polymer modified with nitrogen containing species*", "*has cationic groups or groups that become cationic at the pH of use*" and "*the polymeric material has a weight average molecular weight greater than 10,000*". Said features had, however, been isolated from their more specific contexts according to the original disclosure in the application as filed.
- b) As regards the incorporation of "*natural polymer modified with nitrogen-containing species*", there was no direct and unambiguous basis for a modification of the natural polymer with nitrogen-containing species other than by reaction at the hydroxyl groups of the natural polymer, as disclosed on Page 18 of the application as filed. In the application as filed, the option of the

natural polymer being modified with nitrogen-containing species was indeed only disclosed as an example of modification of the natural polymer by reaction at its hydroxyl groups with other groups suitable to provide side groups that modify the substantivity of the polymer surface or provide nucleation inhibiting effects. This was apparent from several instances on Page 18 of the application as originally filed:

- (i) the expression "*For example*", which did not refer to the general class of "*modified natural polymers*" (Page 18, line 7) mentioned at the beginning of the paragraph, but, according to its normal use, to the immediately preceding statement, i.e. the reaction at the hydroxyl groups;
- (ii) the expression "*may be modified*" (Page 18, line 11), which illustrated a chemical modification at the hydroxyl groups, which was detailed further by the expression "*For example*";
- (iii) the specific nitrogen specie mentioned on Page 18, lines 17-18 "*hydroxypropyl-trimethylammonium guar gum*"; the Appellant not being aware of any other way of introducing it other than by reaction at the hydroxyl groups.

- c) Likewise, the isolation of the requirement for cationic groups or groups to become cationic at the pH of use from the related conditions of use, i.e. on a surface which was negatively charged and made of steel, ceramic, glass or enamel, represented another non-allowable intermediate generalization.

- d) As concerns the requirement that the natural polymer should have a weight average molecular weight greater than 10,000, this was a more preferable option, taken out from its context and included in Claim 1, although it was not illustrated further in the examples.
- e) Finally, the objection that the combination of all the features of Claim 1 had no basis in the application as filed, was even more convincing considering that the Respondents, questioned by Board, could not clearly answer the question of which examples of the patent actually fell under Claim 1 at issue.

X. The arguments of the Respondents of relevance for the decision can be summarised as follows:

- a) The Patent Proprietors had provided a patent specification, which was to be read by the skilled person using common general knowledge. So it was only relevant how the skilled person would understand the text.
- b) The skilled person would clearly understand that the "*modified natural polymers*" were one of the classes of suitable polymers, the structure of which was disclosed on Page 18 of the application as filed. In this respect, the Respondent did not rely on the examples, so that it was not important which of the illustrated examples fell under Claim 1. As a case in point, the Jaguar polymers mentioned on Page 19 of the application as filed fell under Claim 1, although no specific data concerning their molecular weight could be given during the oral proceedings.



- c) As concerns the amendment consisting in the incorporation of the features "*natural polymer modified by nitrogen-containing species*", the disclosure in the application as filed that the natural polymer might be modified by reaction of the hydroxyl groups, and the disclosure that the natural polymer might be modified with nitrogen containing species were provided in distinct paragraphs. Thus, the latter disclosure was not necessarily linked to the disclosure of the modification by reaction of the hydroxyl groups. Also, polymers such as Crotein C, illustrated in the patent in suit, not only contained hydroxyl groups but also nitrogen groups. Therefore, this objection was not convincing.
- d) There was no close structural or functional relationship between the feature that the polymer should have cationic groups or groups which become cationic at the pH of use and the feature that the surface be negatively charged, and made of steel, ceramic, glass or enamel, so that the inclusion of the former feature without the latter was not an intermediate generalisation, as also apparent from original Claims 4 and 5.
- e) As to the molecular weights, as disclosed on Page 13, lines 15 ff of the original description, they were disclosed as polymer features for a specific sought-for effect of the use. Also, the incorporated features all related to polymer characteristics, which were disclosed originally as being preferable, as on Page 13, line 25 for the molecular weight.

- f) As apparent in particular from page 18 of the application as originally filed, the combination of features of Claim 1 as granted was directly and unambiguously based on the original disclosure.

## **Reasons for the Decision**

### *Extension beyond the content of the application as filed*

2. Compared to Claim 1 of the application as filed, Claim 1 at issue (wording under Point II, *supra*) was amended by the insertion of additional features limiting the "polymeric material" to be used by more narrowly defining its properties. According to claim 1 at issue said polymeric material must meet three criteria:

It

- (a) *"is a natural polymer modified with nitrogen containing species";*
- (b) *"has a weight average molecular weight greater than 10,000";* and
- (c) *"has cationic groups or groups which become cationic at the pH of use".*

- 2.2 Features (a) are not contained as such in any of the claims depending on Claim 1 as originally filed.

- 2.2.1 The disclosure on page 18, lines 6 to 23, of the application as filed, invoked as a basis for the incorporation of features (a), reads as follows (emphasis added by the Board):

*"Another class of polymers which may be used in the present invention comprises modified natural polymers such as starches and gums. For examples, the polymer may comprise guar gum, cellulose, locust bean gum,*

*starch, starch amylose or similar natural polymers. The natural polymer may be modified by reaction of the hydroxyl groups with other groups, to provide side groups to modify the substantivity of the polymer surface or to provide nucleation inhibiting effects.*

*For example, the natural polymer may be modified with nitrogen containing species such as hydroxypropyl-trimethylammonium groups. For example the polymers may comprise cationic guar gum such as hydroxypropyl-trimethylammonium guar gum with a degree of substitution in the range 0.11 to 0.22, available commercially under the trade marks JAGUAR C13S, JAGUAR C14S, JAGUAR C17 and JAGUAR C-162."*

- 2.2.2 Regarding the disclosure in this part of the application as filed the Board observes the following:
- (a) A further (other) class of polymers is identified which may be used, i.e. "*modified natural polymers*".
  - (b) Then, two generic types of polymers belonging to the generally disclosed class of natural polymers qualifying for being used in modified form are mentioned: "*such as starches and gums*". They are further detailed in the subsequent following passage reading: "*For example, the polymer may comprise guar gum, cellulose, locust bean gum, starch, starch amylose or similar natural polymers*".
  - (c) Subsequently, it is indicated how the natural polymer may be modified, namely "*by reaction of the hydroxyl groups with other groups ... to provide side groups...*", and for which purposes.
  - (d) The description then mentions that the natural polymer may, for example, be modified with "*nitrogen containing species*".

- (e) Finally, "*hydroxypropyltrimethylammonium groups*" are mentioned as an example of such nitrogen containing species.

2.2.3 It is apparent therefrom that:

- (a) "*guar gum, cellulose, locust bean gum, starch, starch amylose*" are the most preferred natural specific natural polymers mentioned;
- (b) the "*or similar natural polymers*" are not further specified;
- (c) the passage "*the natural polymer may be modified by reaction of the hydroxyl groups*" follows the exemplification of the most preferred natural polymers, and obviously refers only to natural polymer containing hydroxyl groups. In fact, the most preferred natural polymers specifically mentioned all are polysaccharides, thus contain hydroxyl groups as functional groups. Actually, they appear to contain only hydroxyl groups as functional groups that may be modified by reaction with other groups. Hence, the said passage refers to the modification of each of the specifically mentioned natural polymers containing hydroxyl groups.
- (d) The passage "*For example, the natural polymer may be modified with nitrogen containing species such as hydroxypropyltrimethylammonium groups*" consists of the following items of information:
  - (i) the expression "*For example*", which is commonly used as an illustration of something mentioned before;
  - (ii) the expression "*the natural polymer*", which is identically mentioned in the previous sentence concerning hydroxyl group-containing natural polymers, and hence expands on it;

- (iii) the expression "*may be modified with nitrogen containing species*", which contains a term indicating an option ("*may*") and an expression specifying a particular chemical group suitable as modifying group; and
- (iv) the expression "*such as hydroxypropyl-trimethylammonium groups*", which exemplifies such a group and containing nitrogen.

- g) The second occurrence of "*for example*" (Page 18, line 18) refers to the modification of guar gum, one of the hydroxyl group-containing natural polymers mentioned before, with the mentioned hydroxypropyltrimethylammonium groups. At least as far as guar gum is concerned, the Board accepts the argument of the Appellant that it is not apparent how such a modification could be carried out apart from a modification of the hydroxyl groups.
- h) As regards the arguments of the Respondents (Point X(c), *supra*) that polymers such as Crotein C, illustrated in the examples of the patent in suit, contained not only hydroxyl groups but also nitrogen groups, the Board notes that Crotein C is a collagen derivative (paragraph [0059] of the patent in suit), i.e. a protein derivative, which is a polymer different from the polysaccharides dealt with in the first and second paragraphs on page 18 of the application as filed.

2.2.4 It follows from the foregoing analysis that the limitation "*the natural polymer may be modified with nitrogen containing species*" is disclosed in a context of referring only to natural polymers containing hydroxyl groups, which may be modified by reaction of the hydroxyl groups with other groups, which may contain nitrogen, to give, for instance, a natural

polymer modified with hydroxypropyltrimethylammonium groups.

- 2.2.5 Therefore, for the Board, the indication in the application as filed that "*the natural polymer may be modified with nitrogen containing species*" represents nothing more than a more specific illustration ("*For example*") of the preceding disclosure of "*natural polymers modified by reaction of the hydroxyl groups with other groups*", and not an illustration of the more generic class "*modified natural polymers*" as such.
- 2.2.6 Moreover, it is apparent that the term "*may*" (see Point 2.2.3(d) (iii), *supra*) does not necessarily disclose that the modification by reaction of the hydroxyl groups is an optional modification, i.e. that a modification by reaction of other functional groups of the mentioned natural polymers would similarly be possible, but can also be understood to refer to the option of modifying the polymer with "*other groups*" not containing nitrogen by a reaction involving the hydroxyl groups of the mentioned natural polymers.
- 2.2.7 Therefore, the skilled person reading the entire passage of the application as filed quoted under 2.2.1 above cannot not directly and unambiguously derive therefrom the use of natural polymers modified with nitrogen containing species, obtainable by a reaction with a functional group of the natural polymer which is not a hydroxyl group.
- 2.2.8 Consequently, the isolation of the features "*the natural polymer may be modified with nitrogen containing species*" from their more specific context, i.e. the modification of the natural polymer by reaction involving the latter's hydroxyl groups,

constitutes a non-disclosed, hence non-allowable, intermediate generalisation.

- 2.2.9 Indeed, Claim 1 at issue, is directed to the use of a class of modified natural polymers including polymers modified with nitrogen containing species which have not been incorporated by a reaction with hydroxyl groups of the natural polymers. The non-disclosed use of such modified natural polymers, which may have different properties and may therefore lead to non-disclosed effects, is thus found to add subject-matter extending beyond the content of the application as originally filed.
3. Since, in the Board's judgement, the first amendment consisting in the incorporation of the features (a) quoted under point 2 *supra* finds no adequate basis in the application as filed, there is no need to decide whether or not the additional incorporation of features (b) and/or (c) quoted under Point 2, *supra*, which has no bearing on the considerations under Points 2.2 to 2.2.9 above, is fairly based on the application as filed.
4. Claim 1 at issue, which is identical to Claim 1 as granted, being objectionable under Articles 100(c) EPC, this ground of opposition prejudices the maintenance of the patent in the version held allowable by the Opposition Division.

**Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked

The Registrar:

The Chairman:



D. Magliano

B. Czech

Decision electronically authenticated