

**Internal distribution code:**

- (A)  Publication in OJ  
(B)  To Chairmen and Members  
(C)  To Chairmen  
(D)  No distribution

**D E C I S I O N**  
**of 27 April 2006**

**Case Number:** T 1295/04 - 3.3.06

**Application Number:** 96203473.2

**Publication Number:** 0846756

**IPC:** C11D 17/00

**Language of the proceedings:** EN

**Title of invention:**

Process for making a coated detergent tablet

**Applicant:**

THE PROCTER & GAMBLE COMPANY

**Opponent:**

-

**Headword:**

Coated tablet/PROCTER & GAMBLE

**Relevant legal provisions:**

EPC Art. 56, 123(2)

**Keyword:**

"Compliance with Article 123(2) EPC (main request): yes"

"Inventive step (main request): no - technical teaching of the prior art leads to claimed subject-matter"

"Inventive step (auxiliary request): yes - selected coating and its properties not suggested in the prior art"

**Decisions cited:**

-

**Catchword:**

-



Case Number: T 1295/04 - 3.3.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.06  
of 27 April 2006

**Appellant:** THE PROCTER & GAMBLE COMPANY  
One Procter & Gamble Plaza  
Cincinnati, Ohio 45202 (US)

**Representative:** TER MEER - STEINMEISTER & PARTNER GbR  
Mauerkircherstrasse 45  
D-81679 München (DE)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 11 August 2004  
refusing European application No. 96203473.2  
pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** P. Krasa  
**Members:** L. Li Voti  
A. Pignatelli

## Summary of Facts and Submissions

- I. This appeal lies from the decision of the Examining Division to refuse European patent application no. 96 203 473.2, relating to a coated detergent tablet.
- II. In its decision, the Examining Division found that
- the application as originally filed disclosed tablets prepared by various methods, for example by applying a coating composition in form of a melt onto a core; this melt could comprise an amount of up to 30% by weight of a disintegrant; the amount of 30% by weight of disintegrant in the melt did not necessarily result in an amount of 30% by weight of disintegrant in the final coating;
  - furthermore, this specific amount of disintegrant was disclosed only in combination with tablets prepared by applying a coating in form of a melt and not in combination with the other possible methods of preparation of the claimed tablets;
  - therefore, the application as originally filed did not contain any support for an amount of up to 30% by weight of disintegrant in the coating for all the range of tablets covered by claim 1 as amended in the course of the examination procedure;
  - similarly, there was no support for such an amount of disintegrant in the coating of a tablet prepared by the specific process of claim 7 not requiring the application of the coating composition to the core in form of a melt;

- therefore, claim 1 according to the then pending main and first to second auxiliary requests and claim 7 according to the main request did not comply with the requirements of Article 123(2) EPC;
- the claims according to the then pending third auxiliary request complied with the requirements of the EPC; however, under cover of the letter dated 1 July 2003, the Applicant had not agreed upon the granting of a patent on the basis of these claims.

III. An appeal was filed against this decision by the Applicant (Appellant).

During the oral proceedings held before the Board on 27 April 2006 the Appellant filed two new sets of amended claims to be considered as main and auxiliary requests, respectively.

The independent claims 1 and 5 according to the main request read, respectively, as follows:

"1. A tablet comprising a core and a coating, the core being formed by compressing a particulate material, the particulate material comprising surfactant and detergent builder, characterised in that the coating material has a solubility in water at 25°C of less than 20 g/l and the coating comprises a disintegrant, which will swell once in contact with water, at a level to break the coating up to 30% by weight of the coating."

"5. A process for making a tablet comprising the steps of : (a) forming a core by compressing a particulate material, the particulate material comprising surfactant and detergent builder; (b) applying a coating material to the core, the coating material being in the form of a melt; (c) allowing the molten coating material to solidify; characterised in that the coating material comprises a disintegrant, which will swell once in contact with water, at a level to break the coating up to 30% by weight of the coating, and wherein the coating material has a solubility in water at 25°C of less than 20 g/l."

Claims 1 and 5 according to the **auxiliary request** differ from claims 1 and 5 according to the main request insofar as the coating material is selected from **C<sub>2</sub>-C<sub>13</sub> dicarboxylic acids**.

Both requests contain claims 2 to 4 and 6 relating to particular embodiments of the claimed tablet and process, respectively.

IV. The Board informed the Appellant in writing of its provisional opinion and *inter alia* that

- the claims appeared to comply with the requirements of Article 123(2) EPC;
- **document (4)**, i.e. **WO-A-95/18215**, seemed to represent the most suitable starting point for the evaluation of inventive step since it addressed the same technical problems dealt with in the present application and disclosed detergent

tablets comprising a core of compressed particulate material and a water-insoluble coating;

- it was known from **document (6)**, i.e. **DE-A-2406455**, to incorporate water-swellaible disintegrants into water-insoluble coatings for granulated detergent additives in order to provide a better solubility during washing without impairing the protective qualities of the coating;
- it appeared thus obvious for the skilled person, in the light of the teaching of document (6), to incorporate a water-swellaible disintegrant into the coating of the tablets of document (4) in order to improve their solubility during washing without impairing the protective qualities of the coating;
- therefore, the claimed subject-matter appeared to lack inventive step in the light of the combination of documents (4) and (6).

V. The Appellant submitted in writing and orally that

- the application of a melt comprising up to 30% by weight of disintegrant onto a core resulted in a tablet having necessarily up to 30% by weight of disintegrant in the coating; the passage of the application as originally filed relating to the application of a melt comprising up to 30% by weight of disintegrant onto the core to form a tablet supported thus the subject-matter of claim 1; a tablet having all the features of the

subject-matter of claim 1 was thus disclosed in the application as originally filed;

- the claims according to the main request complied thus with the requirements of Article 123(2) EPC;
- document (4) related to solid block cleaning compositions for repeated use in institutional or industrial ware washing or laundry washing which had to be inserted into a water spray detergent dispenser whilst the present invention related to smaller tablets for domestic use which had a compressed particulate core and had to dissolve completely in the wash liquor;
- document (4) was thus not relevant for the assessment of inventive step;
- document (6) related to granulated additives having an active substance embedded in a matrix comprising a disintegrant; its teaching was thus not applicable to detergent tablets;
- as shown in the present application, the introduction of a disintegrant in the water-insoluble coating rendered the coating harder though increasing its solubility in the wash liquor;
- the claimed subject-matter was thus inventive over the cited prior art.

VI. The Appellant requests that the decision under appeal be set aside and that a patent be granted in the following version:

Claims 1 to 6 according to the main request or claims 1 to 6 according to the auxiliary request both filed during oral proceedings.

### **Reasons for the Decision**

#### 1. *Main Request*

##### 1.1 Article 123(2) EPC

The application as originally filed discloses the application of a melt of a coating composition comprising up to 30% by weight of disintegrant onto a core to form a tablet (see page 7, lines 21 to 34 in combination with page 8, lines 15 to 22).

Since the melt is applied to a solid core and then allowed to solidify, the Board agrees with the Appellant that in such a case the resulting tablet also comprises unavoidably a coating having up to 30% by weight of disintegrant.

The application as originally filed thus discloses a tablet having all the features of the subject-matter of claim 1.

The subject-matter of claim 1, being defined by technical features not limited by any particular method of preparation, is thus supported by the above



mentioned passage and complies with the requirements of Article 123(2) EPC.

Claim 5 relates to the process of preparation of a tablet by applying a coating composition comprising up to 30% by weight of disintegrant in the form of a melt onto a core.

Thus this claim complies with the requirements of Article 123(2) EPC for the same reasons put forward above.

The Board is thus satisfied that the claims according to the main request comply with the requirements of Article 123(2) EPC.

## 1.2 Articles 84 and 54 EPC

The Board is satisfied that the claims according to the main request comply with the requirements of Articles 84 and 54 EPC.

## 1.3 Inventive step

### 1.3.1 The present invention relates to coated detergent tablets having a core formed by compressing particulate material (see page 1, line 1; page 2, lines 28 to 30; page 4, lines 12 to 15).

The technical problem underlying the claimed invention is reported in the present application as the provision of tablets having a hard and thin coating which enables the tablets to be stored, shipped and handled, which coating breaks up easily and rapidly in a washing

machine, the tablet thus disintegrating and dissolving completely in the wash liquor (see page 2, line 28 to page 3, line 9; page 6, lines 7 to 13).

- 1.3.2 Document (4) discloses a detergent block for use in industrial washing machines for delivering repeatedly controlled amounts of a detergent composition to the wash liquor. This detergent block is coated with a thin, hard coating of a water-insoluble material and can thus be stably stored, shipped and handled. Moreover it disintegrates and dissolves at adequate speed in use when it is submitted to a water stream (page 1, lines 4 to 14; page 4, lines 10 to 30; page 4, line 36 to page 5, line 6; page 5, line 31 to page 6, line 9; page 6, lines 19 to 23; page 15, lines 22 to 25; page 17, line 14 to page 18, line 28).

The core of the disclosed detergent blocks can be prepared by compressing particulate material and have a mass of at least 100 grams (see e.g. page 27, lines 16 to 22).

Since the range of tablets claimed in the present application is not limited to those having a particular mass suitable for use in domestic washing machines, which are in fact only a particular embodiment of the claimed subject-matter (see the present application, claim 1, page 1, line 2; page 4, lines 20 to 23; page 6, lines 1 to 4), the wording of claim 1 encompasses also, in the Board's view, detergent blocks of the type used in document (4).

Therefore, the Board finds that this document, relating to tablets similar to those claimed in the present

application and dealing with a similar technical problem as that mentioned above, is a suitable starting point for the evaluation of inventive step.

- 1.3.3 The tablets disclosed in document (4) comprise a core including surfactants and builders and have a water-insoluble coating which can be applied to the core in the form of a melt (see page 6, line 35 to page 7, line 3; page 8, lines 4 to 10; page 10, lines 34 to 37; page 12, lines 11 to 13; page 15, line 11 to page 16, line 5; page 17, lines 14 to page 18, line 22).

Therefore, the tablets of document (4) differ from the subject-matter of present claim 1 only insofar as they do not comprise in the coating up to 30% by weight of a disintegrant which swells upon contact with water.

- 1.3.4 The Applicant argued that the introduction of a disintegrant into the water-insoluble coating rendered the tablets not only more soluble in the wash liquor but also more resistant to abrasion than similar tablets not having any disintegrant in the coating.

The Board finds that the introduction of such a disintegrant which swells upon contact with water undoubtedly increases the solubility of the tablet into the wash liquor. Moreover, the present application shows that the addition of the commercial disintegrant Nymcel ZSB-16 to a coating of adipic acid increases the tensile strength of the tablet (see examples 1 and 2 and comparative examples 3 and 4).

However, the present application does not contain any convincing support that this increase of the tensile strength would be obtained for all the range of tablets

encompassed by claim 1, having chemically very different coatings, i.e. for tablets having a coating not made of a dicarboxylic acid but made, for example, of fatty alcohols, diols, esters or ethers (see page 6, lines 29 to 31).

Therefore, this additional benefit, having not been convincingly shown for the whole range of claimed tablets, has to be disregarded in the evaluation of inventive step of the claimed subject-matter.

Since document (4) already provided a hard, thin, water-insoluble coating for detergent tablets which allows the tablets to be safely stored, shipped and handled and which is broken, dispersed or dissolved at a suitable speed when it is submitted to a water stream, thereby releasing the active ingredients into the wash liquor (see page 6, lines 3 to 9 and page 18, lines 25 to 28), the technical problem underlying the present invention can be formulated in accordance with the present application as the provision of similar tablets which break up more easily and rapidly in a washing machine and disintegrate and dissolve completely in the wash liquor.

The Board is satisfied that the underlying technical problem mentioned above has been solved by using a coating as described in claim 1.

- 1.3.5 Document (6), relating to granular detergent additives, teaches that it was already known to protect the latter by means of a water-insoluble coating and that such coated products were stable upon storage and

sufficiently soluble in a wash liquor (see page 1, 8th line from the bottom to page 2, line 20).

This document teaches also that the stability of these products upon storage under difficult conditions and their solubility can still be improved by incorporating into the water-insoluble coating a disintegrant which swells upon contact with water.

The resulting product dissolves then rapidly and **completely** in the wash liquor even at low temperatures (see page 2, line 20 to page 3, line 10 and claim 1).

The Board finds that, even though document (6) relates to granulated additives embedded in a coating and not to tablets having a core of active ingredients, it was obvious for the skilled person, in the light of the technical teaching of document (6), to try a disintegrant which swells upon contact with water in the water-insoluble coatings of document (4) in order to improve their dissolution capacity upon contact with water and thus the complete dissolution of the tablets in the wash liquor without impairing the known protective properties of the water-insoluble coating.

Therefore, the subject-matter of claim 1 lacks an inventive step.

## 2. *Auxiliary Request*

### 2.1 Articles 123(2), 84 and 54 EPC

Claim 1 according to the auxiliary request differs from claim 1 of the main request insofar as the coating material is selected from **C<sub>2</sub>-C<sub>13</sub> dicarboxylic acids**.

This new feature is supported by page 6, lines 29 to 30 of the application as filed.

The Board is thus satisfied that the amended claims according to this request comply with the requirements of Article 123(2) EPC.

Articles 84 and 54 EPC are also complied with.

## 2.2 Inventive Step

2.2.1 The Board notes that neither document (4) nor document (6) suggest using C<sub>2</sub>-C<sub>13</sub> dicarboxylic acids as a water-insoluble coating for the products disclosed in those documents.

Moreover, the tests present in the application show that the incorporation of the disintegrant Nymcel ZSB-16 into a coating of adipic acid, i.e. of a C<sub>4</sub>-dicarboxylic acid, is surprisingly harder than a similar coating without the disintegrating agent (see examples 1 and 2 vs. comparative examples 3 and 4).

The Board has also no reason to believe that the same effect would not be achieved by using other C<sub>2</sub>-C<sub>13</sub> dicarboxylic acids as a water-insoluble coating or another disintegrant which swells upon contact with water.

Therefore, since the available prior art did not contain any suggestion for using C<sub>2</sub>-C<sub>13</sub> dicarboxylic acids as a water-insoluble coating for tablets in combination with a disintegrant which swells upon

contact with water and it had been convincingly shown that such tablets can be stably stored, shipped and handled, are harder than similar tablets not containing such a disintegrating agent, and are broken in the washing machine releasing easily and rapidly the active ingredients into the wash solution thereby dissolving completely in the wash liquor, the Board finds that the subject-matter of the claims according to the auxiliary request involves an inventive step.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to grant a patent with the claims 1 to 6 according to the auxiliary request filed during oral proceedings and a description to be adapted.

The Registrar:

The Chairman:

G. Rauh

P. Krasa