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**Datasheet for the decision
of 2 March 2022**

Case Number: T 0362/19 - 3.3.06

Application Number: 09010447.2

Publication Number: 2292725

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C11D3/34, C11D3/16, C11D3/386,
C11D1/29

Language of the proceedings: EN

Title of invention:
Method of laundering fabrics at low temperature

Patent Proprietor:
The Procter & Gamble Company

Opponents:
Reckitt Benckiser Vanish B.V.
Henkel AG & Co. KGaA

Headword:
Laundering at low temperature/PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 100(a), 56

Keyword:
Inventive step (all requests) - (no)

Decisions cited:

Catchword:



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Case Number: T 0362/19 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 2 March 2022

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
21 November 2018 concerning maintenance of the
European Patent No. 2292725 in amended form.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: L. Li Voti
 C. Brandt

Summary of Facts and Submissions

- I. The patent proprietor's appeal is against the intermediate decision of the opposition division to maintain European patent no. 2 292 725 in amended form on the basis of auxiliary request 3 filed during oral proceedings on 25 October 2018.
- II. With its statement of grounds the appellant submitted that the claims as granted were novel and inventive and it resubmitted the sets of claims according to auxiliary requests 1 and 2 already filed before the opposition division.

Claim 1 as granted (**Main request**) reads as follows:

"1. A method of laundering fabric comprising the step of contacting a laundry detergent composition to water to form a wash liquor, and laundering fabric in said wash liquor, wherein the wash liquor has a temperature of above 0°C to 20°C, and wherein the laundry detergent composition comprises greater than 1wt% deterative surfactant and other detergent ingredients selected from:

a layered particle, wherein the layered particle comprises a core and a layer, wherein the core comprises a source of hydrogen peroxide, wherein the layer comprises a binder and a bleach activator, and wherein the weight ratio of the source of hydrogen peroxide to the bleach activator present in the layered particle is in the range of from about 5:1 to about 1.1:1; and/or

a perfume microcapsule."

Claim 1 according to **auxiliary request 1** reads as follows:

"1. A method of laundering fabric comprising the step of contacting a laundry detergent composition to water to form a wash liquor, and laundering fabric in said wash liquor, wherein the wash liquor has a temperature of above 0°C to 20°C, and wherein the laundry detergent composition comprises greater than 1wt% deterative surfactant and other detergent ingredients including a perfume microcapsule."

Claim 1 according to **auxiliary request 2** differs from claim 1 as granted insofar as the wash liquor has a temperature of *"above 0°C to 15°C"*.

- III. In their replies the respondents (opponents 1 and 2) maintained their objections that the claimed subject-matter lacked novelty and inventive step. Respondent 2 also filed two new documents **D18** (US 2005/0003980 A1 and **D19** (US 6458754 B1).
- IV. The following documents already filed in opposition are relevant for the present decision:
- D7**: WO 2007/144855 A1
 - D13**: WO 2007/1356646 A1
 - D15**: Experimental Report filed on 20.10.2017
 - D16**: "Microencapsulation" by C.A. Finch et al., Ullmann's Encyclopedia of Industrial Chemistry
 - D17**: Tantawy's declaration dated 22nd October 2018.
- V. The board issued a communication pursuant to Article 15(1) RPBA containing its preliminary opinion but none of the parties responded to this communication.

VI. At the oral proceedings, which took place on 2 March 2022, the final requests of the parties were as follows:

The appellant requested as main request that the decision under appeal be set aside and that the patent be maintained as granted, or auxiliary that the patent be maintained on the basis of any of auxiliary requests 1 or 2, both filed with the statement of grounds dated 1 April 2019.

The respondents requested that the appeal be dismissed.

Reasons for the Decision

1. Main request - Inventive step

1.1 According to the patent in suit (paragraphs [0001] and [0003]), the object of the invention is the provision of a method for laundering fabrics at low temperature, which method exhibits good fabric cleaning performance, good fabric care profile, good fabric freshness profile and has an excellent environmental profile.

The appellant stated that the method according to claim 1 as granted was in particular able to provide good fabric freshness profile and an excellent environmental profile.

1.2 It was common ground among the parties that D7 is a suitable starting point for the evaluation of inventive step. It is also not in dispute that the examples of D7 represent the closest state of the art, as they concern a method of laundering fabrics at a temperature of 20 to 90°C, and disclose explicitly the use of a wash liquor having a temperature of 20°C with a composition

comprising at least 1 wt% deterative surfactant as encompassed by claim 1 as granted. Moreover all the compositions used in these examples comprise a starch encapsulated perfume (in the following **SEP**).

- 1.2.1 As explained below there was however no agreement among the parties whether SEP would represent a perfume microcapsule or not.

It was however common ground that microparticles can be classified - as established in document D16 (page 1, left column, lines 1-7) representing common general knowledge - into **microparticles** in the literal sense, i.e. a matrix system wherein the active ingredient is dispersed/dissolved in the carrier matrix, and **microcapsules**, i.e. a reservoir system wherein the active substance is surrounded by a membrane. In the appellant's view SEP represented a matrix system whilst the respondent maintained that it represented microcapsules.

- 1.2.2 The board notes that D7 does not contain any statement which could help to determine without any doubt the structure of the disclosed SEP, and as observed in its preliminary opinion, the cited prior art appears to make a distinction between matrix systems, such as the so-called starch encapsulated accord (in the following **SEA**), and reservoir systems/microcapsules (see in particular D13: page 7, lines 14-17; page 11, lines 2-3 referring to the methods and products of D18 and D19; D18: paragraphs [0014], [0022], [0042], examples 1 and 7, claim 1 or D19: column 6, lines 43-48). Therefore, in the absence of supporting evidence, the board cannot agree with the respondent's allegation that the resulting product of preparation of a matrix system

such as SEA would not be structurally distinguishable from a microcapsule.

- 1.2.3 It follows that in the absence of a definition of SEP in D7 it is not possible to conclude that D7 discloses directly and unambiguously a product having the same structure as that differently named as SEA and disclosed in D13, which originates from the same applicant and has a similar publication date as D7.

Also the statement contained in document D17, a declaration by a patentee's employee that "*SEA, typically known as starch encapsulated accord, is also referred to as starch encapsulated perfume, starch encapsulated oil or starch encapsulated fragrance oil*" and that in the context of D13 the terms SEA and SEP are interchangeable, cannot convince the board in the absence of a conclusive supported evidence that this would have been the common understanding of the skilled person at reading D7 at its publication date.

- 1.2.4 Therefore, as already indicated in the board's preliminary opinion, the laundering method known from D7 differs from that of claim 1 as granted only in that it does not directly and unambiguously disclose that the starch encapsulated perfume is in the form of microcapsules.

- 1.3 As regards the technical problem underlying the alleged invention the appellant submitted that the claimed process provided at low temperatures an improved fabric freshness profile.

- 1.3.1 The appellant relied on the experimental report D15, wherein the freshness profile of fabrics laundered at low temperature (15°C) with compositions similar to

those of examples 7-12 of D7 was tested (in terms of perfume release from the fabric) on wet and on dry and pressed fabrics. In the test a perfume was added to the composition either as a microcapsule (PMC), as a matrix system (SEA) or as neat perfume. Figures 1 and 2 show that the perfume intensity measured is better when using the perfume microcapsules.

1.3.2 The board however notes that D15 does not identify the material used for the walls of the tested perfume microcapsules. It is however common general knowledge that the ability of release an active ingredient from a microcapsule depends greatly on many factors, in particular the material used for the microcapsule wall, whose stability in water may vary widely (see D16, paragraph bridging pages 1 and 2 as well as following full paragraph on page 2 as well as D13: page 7, lines 20 to page 8, line 6). Therefore it is not plausible that the results identified in figures 1 and 2 of D15 can be obtained independently from any type of wall material used for the microcapsules. For example, in the case of a highly soluble wall material, the perfume would be released in short time during the wash so that no difference would be detectable between the use of microcapsules and of neat perfume whilst, by using a rather water-insoluble wall, hardly any perfume would be released from wet fabrics in a test as carried out in D15.

1.3.3 Therefore, D15 cannot be accepted as an evidence that any possible perfume microcapsule would provide an improved freshness profile over a starch-based matrix system.

1.3.4 It is also to be noted that the patent itself is silent about any improvement linked to the use of a

microcapsule instead of a matrix system let alone does the patent identify any suitable wall material for the perfume microcapsule.

- 1.3.5 It follows that since claim 1 as granted encompasses the use of any type of microcapsule with any type of wall material, the experimental report D15 is manifestly not suitable to support the alleged technical improvement across the entire scope of claim 1 over the closest prior art, namely the examples of D7.
- 1.4 Therefore, starting from said examples, the technical problem underlying the invention is to be reformulated in the less ambitious terms of the provision of a further method for laundering fabric at low temperature which exhibits good fabric cleaning performance, good fabric care profile, good fabric freshness profile and has an excellent environmental profile.
- 1.5 It is not in dispute that the process as claimed has successfully solved this problem.
- 1.6 It remains to be decided if the skilled person starting from the examples of D7 would have chosen without inventive skill to use a perfume microcapsule instead of a starch encapsulated perfume (SEP).
 - 1.6.1 In this respect the board observes that the common general knowledge document D16 (page 3, right column) discloses that perfumes and starch are suitable as core and wall component, respectively, of microcapsules. Moreover, D16 (page 13, right column) clearly identifies the suitability of microcapsules in laundry products.

- 1.6.2 Thus, even though D16 does not specifically identify the use of perfume-containing microcapsules in laundry products, it confirms (page 1, left column, lines 1-7) that micro-encapsulation was considered in the art to be an alternative to the use of a matrix system. Such an alternative is also disclosed for example in D13, a document cited expressly by the appellant in its grounds of appeal for attempting to explain the difference between the so-called SEA (matrix system) and PMC (perfume microcapsule). In particular, the appellant referred to examples 12, 13, 15-17 of D13, wherein both SEA and PMC are used in laundry granules.
- 1.6.3 It can thus be concluded that there was no prejudice in the art preventing the skilled person from trying also perfume microcapsules instead of a matrix system in the process disclosed in D7. Also the use of low temperatures in D7 would have not prevented the skilled person to try microcapsules since it was common general knowledge (D16, page 2, left column, lines 9-19) to optimise the microcapsule features, including the wall solubility, in dependence of the desired application.
- 1.6.4 Therefore, in the board's view, it was obvious for the skilled person faced with the above technical problem, to use as SEP in the examples of D7 a starch-based perfume microcapsule as an alternative to a matrix system and to arrive at the claimed subject-matter without inventive skill.
- 1.7 Claim 1 as granted thus lacks an inventive step within the meaning of Article 56 EPC and the ground of opposition under Article 100(a) EPC prejudices the maintenance of the patent as granted.

2. Auxiliary request 1 - inventive step

Since claim 1 of this request is limited to the embodiment of the claimed method discussed with respect to the main request, i.e. to a laundry method wherein the laundry detergent composition comprises greater than 1 wt% detergative surfactant and a perfume microcapsule, it lacks inventive step for the same reasons.

3. Auxiliary request 2 - inventive step

3.1 Claim 1 of this request differs from that of the main request in that the washing temperature is restricted to the range of above 0°C to 15°C, and thus it differs from the method disclosed in the examples of D7 also in the washing temperature.

3.2 The board however notes that D7 explicitly discloses (see page 24, line 1) in a generic way that the washing temperature for the method of use can typically range from about 5°C to about 90°C, and so it would have been prima facie obvious for the skilled person to try a temperature as low as 5°C in the laundry methods disclosed in this prior art document.

3.3 The appellant argued that the skilled person, considering that D7 (page 1, first paragraph; paragraph bridging pages 1 and 2; page 6, paragraph 1) concerned primarily the use of specific enzymes (such as Celluclean[®]) which deposit on the fibres of laundered fabric surfaces, and knowing that enzymes are temperature sensitive (as indicated for example on page 9 of D7 for a further enzyme alkaline cellulase K), would not have departed from the temperature selected for the specific examples, i.e. a temperature of at

least 20°C, since all examples contained for example Celluclean®.

- 3.4 The board cannot accept this argument because D7, even though disclosing that in the examples the laundry method is carried out at a temperature of 20 to 90°C, does not contain any teaching that other temperatures could not be applied independently from the type of composition used. To the contrary, as indicated above, D7 explicitly mentions in a generic way that temperatures as low as 5°C can be applied to the methods disclosed therein.

Moreover, even though it is commonly known that enzymes are temperature sensitive and that the effects obtained by using a specific composition may be affected by using a different washing temperature, D7 does not contain any teaching that would have led the skilled person away from trying the compositions of D7 containing Celluclean® (and other enzymes) also at the lower temperatures explicitly indicated as suitable therein, with the expectation of obtaining nevertheless good fabric cleaning performance, good fabric care profile, good fabric freshness profile and an excellent environmental profile.

- 3.5 It follows from the above considerations that it was obvious for the skilled person faced with the technical problem posed to carry out the method of laundering of the examples of D7 at the lower temperatures disclosed in this document and thus arrive at a method of laundering falling within the temperature range defined in claim 1 at issue.
- 3.6 Claim 1 of auxiliary request 2 thus lacks an inventive step (Article 56 EPC).

4. As none of the appellant's requests are found to be allowable and since the interlocutory decision of the opposition division to maintain the patent in amended form has not been contested by the respondent, the principle of *reformatio in peius* applies, so that the decision of the opposition division becomes final.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated