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**Datasheet for the decision
of 24 March 2026**

Case Number: T 0337/24 - 3.3.02

Application Number: 17161465.4

Publication Number: 3375855

IPC: C11D1/62, C11D3/00, C11D3/50,
C11D3/22, C11D17/00

Language of the proceedings: EN

Title of invention:

FABRIC SOFTENER COMPOSITION COMPRISING ENCAPSULATED BENEFIT
AGENT

Patent Proprietor:

The Procter & Gamble Company

Opponents:

Cabinet Beau de Loménie
Henkel AG & Co. KGaA

Headword:

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (no) - obvious alternative - reasonable
expectation of success (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0337/24 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 24 March 2026

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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted/electronically
transmitted on 4 January 2024 rejecting the
oppositions filed against European patent No.
3375855 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	M. Maremonti
Members:	M. Kollmannsberger
	B. Burm-Herregodts

Summary of Facts and Submissions

- I. Opponent 1 appealed against the opposition division's decision to reject the oppositions against European patent No. 3 375 855 under Article 101(2) EPC.
- II. The patent deals with fabric softener compositions comprising encapsulated benefit agents, e.g. perfumes. The patent is based on the patent proprietor's finding that microfibrinous cellulose (MFC) may be used to increase the deposition of such encapsulated benefit agents on synthetic fabrics containing polyester.
- III. The patent was granted with two independent claims - a use claim and a method claim - which read as follows.

Claim 1:

*"Use of cellulose fibers in a liquid fabric softener composition comprising encapsulated benefit agent, to increase the deposition of said encapsulated benefit agent on synthetic fabrics wherein the fabrics contain polyester
wherein the cellulose fiber is present at a level of from 0.01% to 5% by weight of the composition and
wherein the cellulose fiber is microfibrinous cellulose derived from wood or jute,
wherein the level of encapsulated benefit agent is from 0.05% to 10% by weight of the composition,
wherein said encapsulated benefit agent is encapsulated in capsules wherein said capsules comprise a capsule shell, said capsule shell comprises a polymer derived from a material that comprises one or more multifunctional acrylate and/or methacrylate moieties*

and wherein the liquid fabric softener composition has a viscosity from 50 mPa.s to 800 mPa.s as measured with a Brookfield® DV-E rotational viscometer, spindle 2 for viscosities between 50 mPa.s and 400 mPa.s, spindle 3 for viscosities between 401 mPa.s and 800 mPa.s, at 60 rpm, at 21°C."

Claim 11:

"A method of treating a synthetic fabric wherein the synthetic fabric contains polyester, said method comprising

- a) optionally washing, rinsing and/or drying said fabric;*
- b) contacting said fabric with a liquid fabric softener composition comprising encapsulated benefit agent, quaternary ammonium ester softening active, and cellulose fibers according to the composition of any of claims 1 to 10; and*
- c) optionally drying said fabric wherein said drying steps comprise active drying and/or passive drying."*

IV. In both the opposition and appeal proceedings, the patent proprietor submitted auxiliary claim requests for maintaining the patent in amended form under Article 101(3)(a) EPC, in which independent claim 1 was amended in the following ways.

Claim 1 of auxiliary request 1 (AR1) adds the requirement that *"the cellulose fibers have an average diameter from 10 nm to 350 nm"*.

Claim 1 of auxiliary request 2 (AR2) defines a further requirement for the material of the capsule shell, namely that *"the ratio of material that comprises one or more multifunctional acrylate moieties to material*

that comprises one or more methacrylate moieties is 999:1 to 6:4".

Claim 1 of auxiliary request 3 (AR3) combines the additional features of AR1 and AR2.

Claim 1 of auxiliary request 4 (AR4) combines the additional features of AR1 and AR2 and additionally specifies that *"the multifunctional acrylate moiety is hexafunctional acrylate"*.

V. The following documents are relevant for the present decision:

D1: EP 2 824 169 A1
D2: WO 2011/054389 A1
D3: EP 2 620 211 A2
D4: EP 3 339 408 A1
D8: US 2015/0159119 A1
D13: Experimental results filed on 20 January 2022 during opposition proceedings
D17: US 2014/0338134 A1

VI. The patent was opposed by two opponents under all the grounds of opposition specified in Article 100(a), (b) and (c) EPC. All these grounds were dismissed by the opposition division. In particular, the opposition division found that the uses and methods defined in the claims of the patent as granted involved an inventive step (Article 56 EPC) over either D1 or D8 as documents representing the closest state of the art.

VII. Opponent 1 (appellant) contested all the opposition division's conclusions. The appellant submitted in particular that the claimed uses and methods did not involve an inventive step over either D1 or D8 as documents representing the closest state of the art. The appellant corroborated its arguments by filing the following new documents D26 to D30 and D34 to D37:

- D26: Wikipedia extract on "Cellulose"
- D27: Declaration of Dr Hans-Georg Brendle dated 26 March 2024
- D28: *"Sustainable Cellulose Fibers For Wrinkle Filling, Soft Focus and Blurring"*, Extract from J. RETTENMAIER & SÖHNE website
- D29: Soppa et al., *"Can cellulose beads save 'The Circling of the Planets'?"*, Poster presented at the Conference on Modern Oil Paints, Rijksmuseum, Amsterdam, May 2018
- D30: US 2017/0015949 A1
- D34: Piras et al., *"Nanocellulosic materials as bioinks for 3D bioprinting"*, Biomaterial Science, 2017, pages 1-5
- D35: Piras et al., *"Ball milling: a green technology for the preparation and functionalisation of nanocellulose derivatives"*, Nanoscale Advances, 2019, pages 937-47
- D36: Gallego et al., *"Green approach for the activation and functionalization of jute fibers through ball milling"*, Cellulose, vol. 27, 2019, pages 643-56
- D37: Piras et al., *"Facile Method to Obtain Low DS β -ketoesters and Esters of Microfibrillated Cellulose"*, Fibers and Polymers, 2020, vol. 21, pages 2166-72

VIII. The patent proprietor (respondent) defended the opposition division's decision and corroborated its arguments by filing the following new documents D31 to D33:

D31: Siró and Plackett, "*Microfibrillated cellulose and new nanocomposite materials: a review*", Cellulose, 17, 2010, pages 459-94

D32: Declaration of Ms Fernández Prieto dated 5 September 2024

D33: US 10,292,927 B2

IX. The parties were summoned to oral proceedings as per their requests. The board issued a communication under Article 15(1) RPBA containing a preliminary assessment of the case.

X. Oral proceedings were held on 24 March 2026 with the appellant and respondent present.

XI. During oral proceedings the board decided not to admit any of documents D26 to D29 and D31 to D37, nor the appellant's novelty objection based on D30. None of D26 to D37 related to the question of inventive step, on which the present decision is based. Thus, these documents are irrelevant for the outcome of the appeal and will not be referred to in the following.

XII. The parties' final substantive requests relevant to the decision were the following.

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that:

- the appeal be dismissed
- alternatively the patent be maintained in amended form based on the claims of one of auxiliary requests 1 to 4 filed in opposition proceedings and refiled with the reply to the appeal.

Opponent 2 was a party to the appeal proceedings as of right (Article 107 EPC) but did not make any submissions or requests.

XIII. The decision was announced at the end of the oral proceedings.

Reasons for the Decision

1. The appeal is admissible

Main request - patent as granted

2. Inventive step, Articles 100(a) and 56 EPC

2.1 The patent deals with the problem of depositing encapsulated benefit agents, e.g. fragrances or perfumes, on synthetic fabrics, in particular polyester. It is described that fabric softeners contain quaternary nitrogen actives which are useful for the deposition of co-actives on negatively charged cotton fibres but less useful for deposition on synthetic fabrics; see paragraph [0004]. The patent

proposes using compositions containing cellulose fibres to improve the deposition on synthetic fabrics; see paragraph [0007]. Cellulose fibres are also referred to as microfibrinous cellulose in the patent (claim 1) and are generally known as microfibrillated cellulose (MFC) in the art.

2.2 Closest prior art and distinguishing features

- 2.2.1 It was undisputed that D1 (or D8, which essentially contains the same disclosure) represented the closest state of the art for the subject-matter of claims 1 and 11 as granted.

D1 discloses liquid fabric-softening compositions containing MFC, derivable from wood or vegetables; see paragraphs [0020] to [0034]. D1 describes that thickened liquid fabric softeners tend to have rheological stability problems; see paragraph [0003]. D1 addresses the problem of improving fabric care compositions with respect to both rheological stability and the deposition of actives on the fabric; see paragraph [0005]. D1 discloses that apart from improving the rheological stability of the compositions, MFC is also believed to improve the deposition of actives, e.g. perfume microcapsules; see paragraph [0034], last sentence. Such microcapsules are further defined on page 7; preferred microcapsules are based on formaldehyde resins, such as melamine-formaldehyde resin; see paragraph [0052]. The further details of the disclosure as well as the examples of D1 relate to the rheological stability of the compositions, which is described as being improved by using MFC over other polymeric structuring agents.

2.2.2 During oral proceedings it was undisputed that the subject-matter of claims 1 and 11 as granted differed from D1 on account of the following features:

- (a) the material of the capsule shell, i.e. the presence of multifunctional acrylate and/or methacrylate moieties
- (b) the application of the fabric softener composition to synthetic fabrics containing polyester

2.3 Objective technical problem

2.3.1 The respondent referred to examples 7 and 8 of the patent (Table 2, page 16). In its view, it was evident from these examples that adding MFC improved the deposition of perfume encapsulated in polyacrylate capsules on polyester fabrics.

On the basis of this finding, the respondent defined the objective technical problem as that presented in the patent itself (paragraph [0007]), i.e. how to improve the deposition of encapsulated benefit agents on synthetic fabrics containing polyester.

2.3.2 The appellant disagreed and proposed an objective technical problem starting from D1 of finding alternative fabrics to be treated by a liquid softener composition comprising cellulose.

2.3.3 The question of the objective technical problem need not be answered since, as apparent from the analysis below, the board concludes that the claimed solution is obvious even if the problem as defined by the respondent is accepted. Thus, for the sake of argument, the board adopts the respondent's definition of the objective technical problem.

2.3.4 Starting from D1, the claimed solutions to the objective technical problem are the use and method defined in claims 1 and 11, which are characterised in that they employ fabric softeners containing microfibrinous cellulose and benefit agents encapsulated in acrylic polymer-containing shells on synthetic fabrics containing polyester.

2.4 Obviousness of the claimed solution to the objective technical problem

2.4.1 In the decision under appeal, the opposition division concluded that the skilled person would not have known what effect MFC fibres had on the deposition of encapsulated benefit agents on polyester-containing fabrics, nor that benefit agents encapsulated in acrylate-containing capsule materials could be used in that context; see point 17.3.4 of the decision under appeal. The respondent also stressed that using MFC fibres to improve the deposition of benefit agents encapsulated in acrylate-containing capsule materials on polyester-containing fabrics was not rendered obvious by any of the cited documents.

2.4.2 The appellant argued that, according to D1, microfibrinous cellulose when used in fabric softeners was generally believed to improve the deposition of actives, in particular microcapsules, on fabrics (paragraph [0034]). This disclosure was not restricted to specific types of fabric or to any specific types of microcapsule. The same was known for liquid washing compositions from D2 (page 4, lines 19-24). Regarding the material of the capsule shells, acrylic polymers were known, e.g. from D3 (example 7), to be suitable for encapsulating benefit agents, in particular

perfumes, in laundry softeners. Thus, there was nothing inventive in carrying over the teaching of D1 regarding MFC to polyester-containing fabrics. Nor was there anything inventive in replacing the microcapsules specifically used in D1, the shell of which was made of melamine-formaldehyde or urea-formaldehyde resins (paragraph [0052]), with other microcapsules known to be suitable for use in fabric softeners.

2.4.3 The board agrees.

As argued by the appellant, a skilled person would have known from D1 and D2 that MFC was a useful additive in laundry compositions, in particular in fabric softeners, for improving the deposition of microencapsulated benefit agents on fabrics. It is correct that neither D1 nor D2 specifically relates to synthetic fabrics containing polyester. However, paragraph [0034] of D1 relates to improved deposition on fabrics in general, and page 4, lines 19-24 of D2 relates to improved deposition on clothes. There is no apparent reason why a skilled person would not have applied the teaching of these documents specifically to synthetic fabrics containing polyester. According to paragraph [0004] of the patent, it was known that deposition of encapsulated benefit agents on synthetic fabrics such as polyester was generally more difficult than deposition on natural fabrics such as cotton. Even then, the skilled person seeking to solve the objective technical problem would have first tried out agents which were known to be generally useful as deposition aids for encapsulated benefit agents in fabric softener compositions, or in laundry compositions in general, with a reasonable expectation of achieving at least some improvement in this respect on synthetic fabrics containing polyester. Therefore, with respect to the

use of microfibrinous cellulose as an aid for depositing encapsulated benefit agents on synthetic fabrics containing polyester, claims 1 and 11 as granted do not go beyond a mere implementation of the teaching of D1.

With respect to the material of the capsule shell, the board considers it a mere routine variation to use a material known for this purpose, namely acrylate polymers, to replace the formaldehyde resins specifically used in D1. Such capsules are known from D3 to be suitable for use in fabric softeners (see example 7 on page 26). The board notes that D3 even states in paragraph [0010] that the use of formaldehyde should be avoided, instead proposing acrylate-containing polymers as capsule shell materials, which are also said to have favourable leakage characteristics; see example 7.

Thus, the skilled person starting from D1 would have known that MFC was an aid for depositing encapsulated benefit agents, and they would have known from D3 that capsules made from acrylic polymers were used in such circumstances.

The skilled person starting from D1 and seeking to solve the objective technical problem would have tried the use and method defined in claims 1 and 11 with a reasonable expectation of success; the skilled person did not have to be absolutely certain of the success of the claimed solution in order to act in the claimed way.

2.4.4 The respondent's counter-arguments are unconvincing.

The respondent argued that the disclosure of D1 in paragraph [0034] was speculative and that D2 related

not to fabric softeners but to laundry detergents in general.

However, D1 deals with fabric care compositions that have improved rheological properties and provide for improved deposition of the actives; see paragraph [0005]. MFC is proposed for this purpose. It is correct that the deposition properties are not proven by examples in D1, yet this does not mean that the disclosure in paragraph [0034] is merely speculative. The skilled person has no reason to doubt that the disclosure is correct, especially since D2 confirms the properties of MFC as an aid for depositing encapsulated perfume particles on clothes. The fact that D2 deals with laundry detergent compositions rather than fabric softeners would not lead the skilled person to conclude that the disclosure of D1 is speculative either.

The respondent further argued that the cited documents did not contain any pointer to a combination of polyacrylates as the shell material and polyester fabrics, or any suggestions that MFC fibres would be especially effective for improving deposition in this case. In particular, the respondent submitted that comparing examples 1 and 3 with examples 5 and 7 of the patent, and example 5 with example 7 (see Table 2 on page 16), showed that, when MFC was not present, polyacrylate capsules exhibited much worse deposition on polyester fabrics than on cotton. By contrast, as shown by comparing example 8 with example 7, using MFC led to a significant improvement in the deposition of the polyacrylate capsules on polyester fabrics, reaching the level of deposition on cotton. The respondent referred to D17, paragraph [0103], which disclosed that different fabric types, such as cotton and polyester, had different properties with respect to

the ability to attract and/or retain and/or release perfume. As regards the capsule shell material, the respondent pointed to D4, paragraphs [0043] and [0044], which disclosed many different types of shell material that would have interacted differently with MFC. Therefore, according to the respondent, the known different properties of different fabric types and the different types of capsule materials proposed for the deposition of actives meant that the skilled person would not have expected the significant improvement in deposition on synthetic fabrics as obtained in the patent with the combination of MFC and a polyacrylate shell material.

The appellant contested that the examples of the patent demonstrated any effect of the shell material on the deposition of perfume on polyester fabrics. Also the board considers that comparing examples 5/6 with examples 7/8 of the patent rather shows (see Table 2 on page 16) that, as regards deposition on polyester fabrics, melamine-formaldehyde capsules perform at least as well as capsules made from polyacrylates. However, even if the respondent's arguments were accepted, it is not essential for there to be an additional pointer for the skilled person to solve the objective technical problem in the claimed way. A skilled person faced with the problem of improving the deposition of encapsulated benefit agents on synthetic fabrics containing polyester would have started out with agents that were generally believed to be useful for that purpose. Thus, the skilled person would have tried out MFC as a deposition aid and would have considered polyacrylates to be a suitable choice as capsule shell materials, for the reasons set out above. The fact that such combination may lead to a particularly significant improvement, as submitted by

the respondent, is a consequence of the skilled person's obvious way of acting when aiming to solve the objective technical problem. The skilled person would not have required any additional pointer in the prior art towards the magnitude of a possible improvement.

2.5 Thus, having regard to the prior art, the use defined in claim 1 and the method defined in claim 11 were obvious to a person skilled in the art.

3. The ground of opposition under Articles 100(a) and 56 EPC prejudices the maintenance of the patent as granted (Article 101(2) EPC). Thus, the main request is not allowable.

Auxiliary requests

4. Inventive step (Article 56 EPC)

4.1 Auxiliary request 1 (AR1)

Independent claim 1 and, by way of reference, independent claim 11 of AR1 require the cellulose fibres to have an average diameter from 10 nm to 350 nm.

This feature is known from D1 (paragraph [0024]), so the assessment of inventive step is the same as for the claims of the main request. Therefore, AR1 is not allowable.

4.2 Auxiliary requests 2-4 (AR2-4)

The independent claims of AR2, AR3 and AR4 further define the acrylic capsule shell material in different

ways. According to the respondent's arguments provided in points 8.2.2, 8.3.2 and 8.4.2 of the reply to the appellant's statements setting out the grounds of appeal, these amendments are intended to further distinguish the claims from the experimental data filed in D13. Since the board's conclusion on lack of inventive step of the main request is not based on the data compiled in D13, these amendments do not change the assessment of inventive step with respect to the main request either. The respondent did not submit any specific arguments as to why the additional features introduced in AR2-4 with respect to the capsule shell material rendered the claimed subject-matter inventive over the disclosure of D1 combined with D3. Therefore, AR2-4 are not allowable.

5. Since the patent cannot be maintained as granted for lack of inventive step (Articles 100(a) and 56 EPC) and none of the amended forms of the patent based on AR1-4 complies with the requirements of Article 56 EPC, the patent must be revoked (Article 101(2) and (3)(b) EPC).

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:



U. Bultmann

M. Maremonti

Decision electronically authenticated