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Datasheet for the decision of 23 September 2019

Case Number: T 1014/16 - 3.3.06

Application Number: 11160937.6

Publication Number: 2476743

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Language of the proceedings: EN

Title of invention:
Method of laundering fabric

Patent Proprietors:
Unilever PLC
Unilever N.V.

Opponent:
THE PROCTER & GAMBLE COMPANY

Headword:
Detergency performance reduction / UNILEVER

Relevant legal provisions:
EPC Art. 56
RPBA Art. 13(1)

Keyword:
Inventive step - (no) (main request and auxiliary requests 1 and 2)
Admissibility of auxiliary request 3 - (no)

Decisions cited:

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 1014/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 23 September 2019

Appellant: (Opponent)	THE PROCTER & GAMBLE COMPANY One Procter & Gamble Plaza Cincinnati, Ohio 45202 (US)
Representative:	Russell, Tim Venner Shipley LLP 200 Aldersgate London EC1A 4HD (GB)
Respondent: (Patent Proprietor 1)	Unilever PLC Unilever House 100 Victoria Embankment London EC4Y 0DY (GB)
Respondent: (Patent Proprietor 2)	Unilever N.V. Weena 455 3013 AL Rotterdam (NL)
Representative:	Mewburn Ellis LLP City Tower 40 Basinghall Street London EC2V 5DE (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 11 February 2016 rejecting the opposition filed against European patent No. 2476743 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	J.-M. Schwaller
Members:	L. Li Voti
	J. Hoppe

Summary of Facts and Submissions

I. The appeal of the opponent (hereinafter the "appellant") lies from the decision of the opposition division to reject the opposition against European patent n° 2 476 743 which had been granted with the following claim 1:

"*1. A method of laundering fabric onto which a cationic fabric softening active has been deposited and dried comprising the step of contacting the fabric with an aqueous wash liquor having the following composition:*
a) 15 to 600 ppm non-soap surfactant,
b) at least 50 ppm ethoxylated polyethylene imine,
c) at least 25 ppm polyester soil release polymer,
the total level of polymer (b + c) being at least 20 wt% of the level of non soap surfactant (a),
d) 0.1 to 100 ppm enzyme selected from protease, amylase, cellulase,
e) optionally, lipase enzyme."

II. With its statement of grounds the appellant objected to the subject-matter of this claim under novelty and inventive step in the light of documents D1 (WO 2009/153184 A1) and D3 (Liquid Detergents, Second Edition, edited by Kuo-Yann Lai, 2006, pages 487-554).

III. In its reply dated 7 November 2016 the respondent (patent proprietor) defended the patent as granted and submitted that document D3 should not have been admitted into the proceedings by the opposition division. Further it filed two sets of amended claims as auxiliary requests 1 and 2.

IV. The appellant replied that it maintained its former objections and it objected to the auxiliary requests under article 123(2) EPC.

V. Following the communication expressing the preliminary opinion of the board the respondent filed with letter dated 13 September 2019 a new set of amended claims as auxiliary request 3.

VI. During the oral proceedings the inventive step of the claimed subject-matter of the main request and auxiliary requests 1 and 2 and the admissibility of auxiliary request 3 were discussed.

VII. The final requests of the parties were as follows:

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

The respondent requested that the appeal be dismissed, or auxiliarily, that the patent be maintained on the basis of one of the auxiliary requests 1 or 2 filed with letter of 7 November 2016, or of auxiliary request 3 filed with letter of 13 September 2019.

VIII. Claim 1 of the auxiliary request 1 differs from claim 1 as granted (main request) in that it relates to "*A method of laundering polyester or cotton fabric or mixtures thereof onto which ...*" (amendments with respect to the main request put in evidence by the board).

Claim 1 of the auxiliary request 2 differs from claim 1 as granted in that it relates to *"A method of laundering polyester fabric onto which ...".*

Claim 1 of auxiliary request 3 reads as follows:

"*1. Use of an aqueous wash liquor having the following composition:*
a) 15 to 600 ppm non-soap surfactant,
b) at least 50 ppm ethoxylated polyethylene imine,
c) at least 25 ppm polyester soil release polymer, the total level of polymer (b + c) being at least 20 wt% of the level of non-soap surfactant (a),
d) 0.1 to 100 ppm enzyme selected from protease, amylase, cellulase,
e) optionally, lipase enzyme
in a method of laundering fabric onto which a cationic fabric softening active has been deposited and dried, the method comprising the step of contacting the fabric with the aqueous wash liquor, wherein the aqueous wash liquor is used for reducing a drop in stain removal performance which results from the presence of the deposited cationic fabric softening active on the fabric."

Reasons for the Decision

1. Admittance of document D3

The respondent contested the admittance of D3 as having been late filed during opposition proceedings.

The board notes that D3 (which is also cited as background art in paragraph [0002] of the patent) had been discussed during the oral proceedings before the opposition division and admitted into the proceedings. Moreover, its content had been considered in the contested decision with respect to the issue of inventive step as representing common general knowledge with respect to the use of cationic softeners in

laundry processes. The opposition division thus applied the right criteria in deciding to admit this document, so there is no reason to revert its decision.

2. Main Request (patent as granted)- inventive step

2.1 The invention

2.1.1 According to the patent (paragraph [0002]) cationic rinse conditioners are known to exhaust almost completely onto fabrics during the rinsing process. Furthermore it is known from D3, page 490, that anionic surfactants complex with cationic actives with the consequence that the resulting complex may deposit onto fabrics and the stain removal performance of detergent products comprising anionic surfactants may thus be reduced.

2.1.2 The object of the patent (paragraph [0007]) is therefore to provide a washing composition that can be used in a laundry detergent process such that the wash performance is less compromised by previous use of a cationic fabric conditioner.

2.2 The closest prior art

2.2.1 Both parties agreed that D1 represents a suitable starting point for the evaluation of inventive step.

D1 namely concerns (page 1, lines 6-9) an improved process of laundering fabrics using a concentrated detergent which (page 5, lines 4-5) exhibits better removal of everyday dirt and stains than commercial products.

2.2.2 Within D1, the embodiment closest to the invention is represented by example 24, which discloses a method of laundering mixed unwashed textiles of polyester and cotton fabrics with an aqueous wash liquor having a composition falling under the wording of claim 1 at issue.

2.3 The technical problem

2.3.1 According to the respondent the problem underlying the claimed invention was to provide a method of laundering fabric that resulted in a smaller reduction in stain removal performance on fabrics having a cationic softening active deposited thereon.

This technical problem has been allegedly solved by the method of claim 1, which makes use of the compositions according to D1 (see paragraph [0005] of the patent).

2.3.2 The experimental data in the patent (paragraphs [0120] to [0139]) report the difference in stain removal performance on cotton and polyester fabrics between laundering methods applied to fabric pretreated with cationic softening actives and to non-pretreated fabrics. In this respect, the performance of compositions 1 and 2 according to claim 1 at issue is compared with that of two commercial compositions A and B, with these latter containing much higher total amounts of non-soap surfactants and of anionic surfactants.

The results summarised in Table 8 on page 19 of the patent show that the compositions 1 and 2 perform better on polyester fabric than compositions A and B. The results on cotton fabric are however not so conclusive, so that it is disputable whether the

claimed method of laundering results in a smaller reduction in stain removal performance on all types of fabrics treated with cationic softeners, and so whether the problem is solved across the entire breadth of claim 1.

In respondent's favour, the board however accepts that the technical problem as formulated above has been effectively solved by the method according to claim 1 at issue.

2.4 Obviousness of the solution

2.4.1 It is not in dispute that the sole difference between the method of laundering disclosed in D1/example 24 and the subject-matter of claim 1 at issue is that the fabric washed according to the former method, which represents the closest prior art, is not a fabric onto which cationic softening actives have been deposited and dried.

2.4.2 It remains to be decided whether it would have been obvious for the skilled person to apply the method of laundering according to the closest prior art to a fabric onto which cationic softening actives have been deposited and dried, and to expect that such method would result in a smaller reduction in stain removal performance in comparison to a method using commercially available compositions.

2.4.3 The respondent argued that the skilled person would not envisage to apply the laundering method of D1, example 24, to a fabric onto which cationic softening actives were deposited and dried, because D1 does not disclose the use of cationic fabric softeners but instead

suggests the use of silicone softeners (D1: examples 32-36).

2.4.4 The board does not accept this argument because in D1 the silicone softener is indeed used, but only in four examples and, when used, it is not added to the rinse step as commonly practiced with cationic softeners, but instead it is used directly through-the-wash in the laundering formulation and so it is present in the wash liquor. In contrast to these particular four examples, in all other examples, including the closest prior art example 24, a silicone softener is not used at all.

Thus the skilled person does not find in D1 any teaching deterring him not to use a commonly known cationic softener, let alone deterring him from applying the laundering method of D1/example 24 to a fabric which has been treated in previous washing cycles with commonly known cationic fabric softeners.

2.4.5 The respondent further argued that the skilled person would not expect that the method disclosed in D1, wherein low in-wash surfactant levels are used, would provide a smaller reduction in stain removal performance than by using commercially available products, which contain greater amounts of surfactants, as shown in the examples of the patent in suit. He referred in this respect to paragraph [0002] of the patent, which stated that the loss in performance due to complexation of the cationic softeners with anionic surfactants was known to be more significant at lower in-wash surfactant levels.

2.4.6 The board does not accept this argument either because it was commonly known that complexation of the cationic softeners with anionic surfactants brought a loss in

washing performance, as the thus complexed anionic surfactants could not contribute to the washing performance in the same way as uncomplexed ones. Therefore, it was reasonable to expect that a composition comprising a low in-wash surfactant level and based mainly or solely on anionic surfactants, as those of comparative examples A and B of the patent, would show a great loss in washing performance as suggested in paragraph [0002] of the patent, since it was commonly known to reduce the amount of anionic surfactants in presence of cationic actives, as can be seen from the passage at page 490 of D3 (also referred to in paragraph [0002] of the patent) reading: "*As cationic actives precipitate in the presence of anionic surfactants, thereby losing most of their efficacy, the anionic surfactant concentration in the liquor* ***must be kept as low as possible***".

2.4.7 It was thus obvious for the skilled person, in the light of this common general knowledge, to reduce the amount of anionic surfactants in the presence of cationic actives in the wash liquor and to look for further cleaning components which are not affected by the presence of cationic softeners and could maintain the washing performance. As disclosed in the patent itself (paragraphs [0003] and [0004]), this is exactly what has been already attempted in the prior art, including D1, which states (page 13, lines 23-27) that its compositions, while using less surfactant (including anionic surfactants) per wash than fully formulated commercial compositions exhibit at least parity in performance and on many stains and dirt show improved performance. This performance boosting which compensates the reduction in total non-soap surfactants, including anionics, is achieved (D1: page 8, first paragraph and paragraph bridging pages 38 and

39) by rebalancing the cleaning performance - expected to be reduced by the use of less surfactant - with EPEI (ethoxylated polyethylenimine) and soil-release polymers, i.e. the two polymers also used in claim 1 at issue.

The better removal of everyday dirt and stains in comparison to commercial products with much higher surfactant levels, referred to on page 5, first paragraph of D1, is confirmed by the stain removal results of example 24 of D1 in comparison to the use of the commercial product Persil Small and Mighty™, which has a higher level of non-soap surfactants (page 56, lines 8-15 of D1) and neither comprises a carbobetaine surfactant nor EPEI (page 67, lines 17-19).

Therefore, the skilled person would have expected that the method of example 24 of D1, because of the low amount of anionic surfactants used and the boosting of cleaning performance achieved by the use of EPEI and soil redeposition polymers, which are not negatively affected by the presence of cationic softeners, when applied to fabrics having cationic actives deposited and dried thereon, would still perform better (and thus result in a smaller reduction in stain removal performance) than a method using other commercial compositions comprising greater amounts of anionic surfactants.

2.4.8 The board therefore concludes that it would have been obvious for the skilled person to try the washing liquor of D1/example 24 in order to solve the technical problem formulated above and so arrive at the subject-matter of claim 1 at issue, which thus lacks an inventive step (article 56 EPC).

2.5 It follows that the main request is not allowable.

3. Auxiliary request 1 - Inventive step

3.1 Claim 1 of this request differs from that of the main request in that the method of laundering is applied to cotton or polyester fabrics or mixtures thereof.

3.2 The board notes that D1 (passage bridging pages 38 and 39) already teaches that the wash liquors used therein provide increased stain removal performance particularly on polyester fabric. Similarly, the laundering method of the closest prior art (D1/example 24), when applied to cotton and polyester fabrics, is also disclosed as providing improved stain removal performance in particular on polyester fabrics as shown in table 12 (page 70).

Thus, it would have been obvious for the skilled person, for the same reasons as those given for the main request, to try the wash liquor of D1/example 24 at least on polyester fabrics having cationic actives deposited and dried thereon with the expectation of providing a smaller reduction in stain removal performance in comparison to other commercially available compositions.

3.3 Claim 1 according to auxiliary request 1 thus does not involve inventive step and the request is not allowable either.

4. Auxiliary request 2 - Inventive step

4.1 Since claim 1 of this request differs from that of the main request only in that the method of laundering is applied to polyester fabric only, the reasons exposed

above for claim 1 of auxiliary request 1 apply mutatis mutandis to this request.

4.2 Claim 1 according to auxiliary request 2 thus does not involve inventive step and the request is not allowable either.

5. Admittance of auxiliary request 3

5.1 This request having been filed on 13 September 2019 - i.e. only 10 days before oral proceedings and thus very lately - may be admitted into the proceedings at the board's discretion under the provisions of article 13(1) RPBA.

5.2 At variance with the previous requests, claim 1 of this request is however not drafted as a method claim but as a use claim: "*Use of an aqueous wash liquor having the following composition...".* Furthermore it includes also a process step, reading: "*the method comprising the step of contacting the fabric with the aqueous wash liquor".* Eventually, claim 1 requires that "*the aqueous wash liquor is used for reducing a drop in stain removal performance",* with the consequence that at first sight it is unclear whether the category of this claim is a use claim or a process making use of the described composition, like the claims of the higher ranking auxiliary requests.

5.3 Moreover, it is unclear from the wording of claim 1 at issue, on the one hand, what is to be understood by the expression "drop in stain removal" and, on the othe rhand, with respect to which composition/method said drop in stain removal performance is supposed to be reduced.

5.4 Last but not least, this claim appears at first sight to lack inventive step for the same reasons as those exposed with respect to the higher-ranking requests.

5.5 The board therefore has found auxiliary request 3 not to be *prima facie* allowable and has decided not to admit it into the proceedings under Article 13(1) RPBA).

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:

A. Pinna J.-M. Schwaller

Decision electronically authenticated