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**Datasheet for the decision  
of 18 October 2017**

**Case Number:** T 0762/14 - 3.3.06

**Application Number:** 08774367.0

**Publication Number:** 2173843

**IPC:** C11D1/62, C11D3/00, C11D3/20,  
C11D3/50

**Language of the proceedings:** EN

**Title of invention:**  
FABRIC SOFTENING COMPOSITION

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

**Opponent:**  
The Procter & Gamble Company

**Headword:**  
Plasticised esterquats / UNILEVER

**Relevant legal provisions:**  
EPC Art. 52(1), 54, 56, 84, 123(2), 123(3), 114(2)  
RPBA Art. 13(1), 13(3)

**Keyword:**

Added subject-matter - claims as granted (yes)  
Auxiliary claim request filed after issuance of summons to  
oral proceedings - admitted into the proceedings  
Amended claims not objectionable under Articles 123 and 84 EPC  
- auxiliary Request 1  
Novelty - (yes) auxiliary request 1  
Inventive step - (yes) auxiliary request 1

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 0762/14 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 18 October 2017**

**Appellant:** The Procter & Gamble Company  
(Opponent) One Procter & Gamble Plaza  
Cincinnati, Ohio 45202 (US)

**Representative:** Gill Jennings & Every LLP  
The Broadgate Tower  
20 Primrose Street  
London EC2A 2ES (GB)

**Respondent:** Unilever PLC  
(Patent Proprietor) Unilever House  
100 Victoria Embankment  
London EC4Y 0DY (GB)

Unilever N.V.  
Weena 455  
3013 AL Rotterdam (NL)

**Representative:** Webster, Jeremy Mark  
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 7 March 2014  
rejecting the opposition filed against European  
patent No. 2173843 pursuant to Article 101(2)  
EPC.**

**Composition of the Board:**

**Chairman**            B. Czech  
**Members:**            M. Maremonti  
                              J. Hoppe

## Summary of Facts and Submissions

- I. The appeal lies from the decision of the Opposition Division to reject the opposition against the European patent EP 2 173 843.
- II. The sole independent claim of the patent as granted reads as follows:

*"1. A fabric softening composition having a pH of from 2 to 3 and comprising*

- (a) from 1.5 to 50% by weight of a cationic fabric softening compound having two or more alkyl or alkenyl chains each having an average chain length equal to, or greater than C<sub>8</sub> each connected to a nitrogen atom via at least one ester linkage, the iodine value of the parent fatty acyl compound or acid from which the alkyl or, alkenyl chains are derived being from 0 to 20, preferably 0 to 5, more preferably 0 to 2, most preferably 0, the softening compound being free from acid amide links,*
- (b) at least 0.15% by weight of perfume, and*
- (c) a plasticizer which is liquid at ambient temperature, in an effective amount such that the fabric conditioning composition has a major phase transition peak of not more than 52°C measured by differential scanning calorimetry (DSC),*

*wherein the plasticiser is selected from*

- (i) unsaturated and/or branched alcohols containing from 12 to 18 carbon atoms and unsaturated and/or branched fatty acids,*
- (ii) long chain fatty esters, and*
- (iii) D(polyoxypropylene) (polyoxethylene) (polyoxypropylene) block copolymers."*

III. The prior art documents cited in the opposition procedure include

D1: US 2003/0171248 A1 and  
D3: WO 94/04643 A1.

The Opposition Division came to the conclusion that the grounds for opposition invoked did not prejudice the maintenance of the patent as granted. More particularly,

- the pre-grant amendments to claim 1 were not objectionable under Article 100(c)/123(2) EPC,
- the subject-matter of granted claim 1 was novel over document D1, and
- it also involved an inventive step considering D1 as the closest prior art.

IV. In its statement of grounds, the Appellant (Opponent) also relied on the following, newly filed items of evidence:

D4: US 6,984,336 B2;

D4a: "Declaration" by Dr. Hans-Juergen Koehle (Evonik Industries), dated 11 July 2014;

D4b: "Technical Report" by Dr. Pieter Saveyn, dated 17 July 2014;

D5: EP 0 239 910 A2 and

D6: US 5,066,414 A.

The Appellant invoked non-compliance of claim 1 with Article 123(2) EPC, lack of novelty over each of D1, D3 and D4, as well as lack of inventive step in view of

*inter alia* D1 taken as the closest prior art.

V. In its reply, the Respondent rebutted the objections and arguments of the Appellant and defended the patent as granted. It nevertheless filed three sets of amended claims as auxiliary requests.

VI. With a further letter dated 10 April 2017, the Appellant filed the following additional items of evidence:

D7: "Statement of Marc Declercq", dated 4 April 2017;  
D8: "First Experimental Report of Marc Declercq",  
dated 4 April 2017; and  
D9: WO 02/072745 A1.

It maintained all previous objections and additionally invoked lack of novelty in view of D9.

VII. The parties were summoned to oral proceedings. In a communication issued in preparation therefor, the Board *inter alia* indicated that the patent as granted appeared to be objectionable under Article 100(c) EPC. It also expressed reservations as to the admittance into the proceedings of document D9, as well as of the part of D8 relating thereto.

VIII. In a further letter, the Appellant took position on the Board's comments and complemented its objections with regard to the pending auxiliary requests.

IX. Under cover of the letter dated 11 October 2017, the Respondent filed five sets of amended claims as auxiliary requests 1 to 5, replacing all previous auxiliary requests.

Claim 1 of the newly filed auxiliary request 1 reads as follows (amendment to claim 1 as granted made apparent

by the Board):

"1. A fabric softening composition having a pH of from 2 to 3 and comprising

(a) from 1.5 to 50% by weight of a cationic fabric softening compound [...],

(b) at least 0.15% by weight of perfume, and

(c) a plasticizer [...],

wherein the plasticiser is selected from

- (i) ~~unsaturated and/or~~ branched alcohols containing from 12 to 18 carbon atoms and unsaturated and/or branched fatty acids,
- (ii) long chain fatty esters, and
- (iii) D(polyoxypropylene) (polyoxethylene) (polyoxypropylene) block copolymers."

Dependent claims 2 to 10 of this request are directed to more specific compositions according to claim 1.

X. In a further letter, the Respondent requested the non-admittance of D7 to D9 into the proceedings in view of their late filing and lack of relevance.

XI. Oral proceedings before the Board were held on 18 October 2017. The debate focused on the following issues:

- objection under Article 123(2) EPC against claim 1 as granted;
- admittance of the pending auxiliary request 1 into the proceedings,
- objections under Articles 123(2), (3) and 84 EPC against auxiliary request 1;



- novelty objections against claim 1 of auxiliary request 1 in view of D1 (as regards novelty over D3 and D4 the parties relied on their written submissions);
- inventive step objection against claim 1 of auxiliary request 1, taking D1 as the closest prior art, and considering also D5 (earlier inventive step objections based on further documents were expressly no longer maintained);
- (non-)admittance of document D9 into the proceedings.

XII. Final requests

The **Appellant** requested that the decision under appeal be set aside and the patent be revoked in its entirety.

The **Respondent** requested that the appeal be dismissed and that the patent be maintained as granted or, if that is not possible, that the patent be maintained on the basis of the claims according to one of auxiliary requests 1 to 5, filed with the letter dated 11 October 2017.

XIII. The Appellant's objections and arguments of relevance for the present decision can be summarised as follows.

- The incorporation into claim 1 of the features specifying in more detail the nature of the plasticizer component (c), to be selected from compound types (i), (ii) and (iii), contravened Article 123(2) EPC. In particular, compound type (i) expressly included "*unsaturated alcohols containing from 12 to 18 carbon atoms*", but this possibility was not originally disclosed.

- auxiliary requests 1 to 5 had been filed only one week before the oral proceedings. They should thus not be admitted in view of their belated filing, pursuant to Article 13(3) RPBA.
- Claim 1 of auxiliary request 1 contravened Article 123(2) EPC for at least some of the reasons also invoked in respect of claim 1 as granted.
- The subject-matter of claim 1 of auxiliary request 1 was not novel over D1, D3, D4 and D9. D9 should be admitted into the proceedings due to its high relevance, despite its late filing.
- The subject-matter of claim 1 of auxiliary request 1 did not involve an inventive step in view of D1, taken as closest prior art, considering also D5.

XIV. The Respondent essentially counter-argued as follows.

- Claim 1 as granted did not contain any added matter since the feature introduced into claim 1 as originally filed found basis on page 15 of the application as originally filed.
- Auxiliary request 1 should be admitted into the proceedings despite its late filing. The amendment made to claim 1 merely consisted in the deletion of an alternative class of compounds, whereby the claimed subject-matter was restricted without any new issues arising.
- Documents D7 to D9 should not be admitted into the proceedings because of their belated filing and lack of relevance.
- None of the documents cited by the Appellant against the novelty of claim 1 of auxiliary

request 1 disclosed a composition having a pH within the claimed range and a plasticizer as defined in claim 1.

- The subject-matter of claim 1 of auxiliary request 1 involved an inventive step taking D1 as the closest prior art. There was no indication in the prior art that would prompt a skilled person to bring the pH in the claimed range and to add a plasticizer according to claim 1, in order to lower the major phase transition peak of the composition as measured by DSC ("*major DSC peak*" in the following) to  $\leq 52^{\circ}\text{C}$ .

## Reasons for the Decision

*Main request - Article 100(c) EPC*

1. Granted claim 1 is directed to fabric softening compositions, *inter alia* to compositions comprising a plasticizer component (c) "*selected from **unsaturated ... alcohols containing from 12 to 18 carbon atoms***" (emphasis added by the Board).

The quoted feature (*inter alia*) was added to claim 1 of the application as filed during substantive examination.

- 1.1 According to the Respondent this amendment found basis on page 15, lines 5 to 10, of the application as filed, this passage reading as follows: "*Suitable plasticizers include unsaturated and/or branched alcohols and fatty acids. Unsaturated compounds may cause odour problems and are not preferred, particularly suitable [sic] **branched alcohols and acids containing from 12 to 18 carbon atoms***" (emphasis added by the Board).

1.2 The Board holds that this passage thus discloses directly and unambiguously only "**branched** alcohols containing from 12 to 18 carbon atoms" but not "**unsaturated** alcohols containing from **12 to 18 carbon atoms**" to which claim 1 as granted is, however, also expressly directed.

1.3 In the decision under appeal, referred to by the Respondent in support of its argumentation, the Opposition Division notes that "there is a potential lack of clarity in opposed claim 1 wherein it is not entirely clear whether the 12 to 16 carbon atoms refers [sic] to only branched alcohol or whether it also refers to the unsaturated alcohol" and goes on considering that "there is no explicit disclosure in opposed claim 1 of an unsaturated alcohol containing from 12 to 18 carbon atoms" and that, therefore, there was no added subject-matter.

However, the Board sees no such lack of clarity or ambiguity in the wording in question. For the Board, considering the syntax of the sentence of claim 1 in question, the expression "*containing from 12 to 18 carbon atoms*" unambiguously refers back to and, thus, further qualifies both the "**unsaturated**" and "**branched**" alcohols referred to. Otherwise a formulation like, for instance, "unsaturated **alcohols** and/or branched alcohols containing from 12 to 18 carbon atoms" would have been used.

1.4 Consequently, claim 1 is clearly also directed to the specific alternative embodiment "**unsaturated** alcohols containing from 12 to 18 carbon atoms", which is, however, **not** directly and unambiguously disclosed on page 15 of the application as filed.

1.5 The Board thus concludes that Article 100(c) EPC prejudices the maintenance of the patent as granted.

1.6 The Respondent's main request is, therefore, not allowable.

*Auxiliary request 1 - Admittance into the proceedings*

2. Auxiliary request 1 was filed one week before the date of the oral proceedings, and the Appellant considered that it should not, therefore, be admitted.

2.1 Claim 1 at issue differs from claim 1 as granted in that the alternative considered to be added matter ("*unsaturated alcohols containing from 12 to 18 carbon atoms*") is deleted from the list of potential plasticizers (c).

2.2 As pointed out by the Appellant, the added matter objection directed against the incorporation of this feature had already been raised in opposition, and again in the statement of grounds of appeal, and was taken up in the Board's communication. A claim set amended in this manner could thus have been filed at a much earlier stage of the proceedings.

The Appellant also alleged that this amendment to claim 1 of auxiliary request 1 increased the complexity of the subject-matter to be considered since further issues arose, especially under Articles 123(3) and 84 EPC, that the Appellant had not been able to adequately deal with before the day of the oral proceedings.

Therefore the Appellant considered that this claim request should not be admitted pursuant to Article 13(3) RPBA.

2.3 However, the amendment made merely consists in the deletion of one ("unsaturated alcohols containing from 12 to 18 carbon atoms") out of two expressly mentioned alternatives, the other alternative ("branched alcohols containing from 12 to 18 carbon atoms") remaining in the claim.

2.4 Although the request was indeed filed at a very late stage of the proceedings, the Board, in the exercise of its discretion under Article 13(1), (3) RPBA, therefore decided to admit auxiliary request 1 into the proceedings, taking also into account the following aspects.

2.4.1 The mere deletion of an alternative feature can, in the present case, exceptionally be accepted considering:

- that the new objections of the Appellant under Article 123(3) and 84 (clarity) EPC allegedly generated by this amendment are based on a reading of claim 1 (see 2.4.2 and 2.4.3, *infra*) that the Board did not follow, and
- that both alleged objections are *prima facie* without merit, as set out below.

2.4.2 Alleged potential issue under Article 123(3) EPC

The Appellant submitted that feature (c) of claim 1, by referring to an "*effective amount*" of plasticizer, *de facto* defined lower and upper limits for the amount of plasticizer to be contained in the composition. More particularly, when a too large amount of plasticizer was added to a composition containing a cationic fabric softening component (a) as defined in claim 1 (referred to herein below as **ester quat**), the temperature of the major DSC peak of the composition might be shifted to a

value higher than the 52°C prescribed as upper limit in claim 1. As a matter of fact, the plasticizer interacted with the ester quat molecules and influenced the way in which these molecules arranged themselves within the composition. A too large presence of plasticizer led to an arrangement resulting in an increase of the major DSC peak temperature.

The Appellant then referred to a hypothetical example of an ester quat composition, comprising 1% of an unsaturated alcohol (no longer mentioned as plasticizer (c) (i) in claim 1 at issue) and 1% of a branched alcohol, both alcohols containing from 12 to 18 carbon atoms and both being able, when used alone, to shift the major DSC peak temperature of the ester quat composition to a value below 52°C. It assumed, however, that when used together, the total amount of plasticizer resulted in a DSC peak temperature of the composition above 52°C.

It concluded that whereas such a composition was not encompassed by claim 1 as granted, it was encompassed by amended claim 1 at issue because the latter claim, due to the term "*comprising*", still included unsaturated alcohols having 12 to 18 carbon atoms in unlimited amount.

Hence, the protection conferred by claim 1 at issue extended the protection conferred by claim 1 as granted, contrary to Article 123(3) EPC.

#### 2.4.3 Alleged potential issue under Article 84 EPC (clarity)

The Appellant referred to another hypothetical example of an ester quat composition, comprising 1% of an unsaturated alcohol containing from 12 to 18 carbon

atoms (no longer mentioned as plasticizer (c)(i) in claim 1 at issue) and 1% of e.g. a long chain fatty ester (plasticizer (c)(ii)), which plasticizers, only when used together, shifted the major DSC peak temperature of the ester quat composition to below 52°C.

According to the Appellant, such a composition was encompassed by claim 1 as granted. It wondered, however, whether or not it would still be encompassed by claim 1 of auxiliary request 1, since 1% of the long chain fatty ester was not able, by itself, to lower the major DSC peak temperature below 52°C, this ambiguity (lack of clarity) being generated by the amendment made to claim 1.

2.4.4 For the Board, the Appellant's argumentation regarding potential non compliance with Articles 123(3) and 84 EPC is *prima facie* not convincing.

i) It is acknowledged that the feature "*in an effective amount ..... not more than 52°C*" as included in both claim 1 as granted as well as claim 1 of auxiliary request 1 may be regarded as ambiguous as regards the precise limitation it imparts on the claimed composition. This possible ambiguity, however, can be resolved by resorting to the description of the contested patent. The Board holds that especially paragraphs [0030] and [0048] make clear that the function of the "*plasticizer*" as defined in claim 1 at issue is to contribute to a **lowering** of the major DSC peak temperature of the composition. In other words, "*in the absence of the plasticizer the transition peak would be significantly higher*" (see paragraph [0030]) and "*the plasticizer ... is selected to suppress the*



*major phase transition peak of the composition to a temperature below 52°C*" (paragraph [0048]).

The Board thus holds that claim 1 as granted as well as claim 1 of auxiliary request 1 has to be read so to expressly require

- that the composition mandatorily comprises a plasticizer component (c) selected from the specific compounds (i), (ii) and (iii), as readily derivable from the literal wording of claim 1 at issue, and
- that the temperature of the major DSC peak of the claimed composition must be  $\leq 52^{\circ}\text{C}$ .

Hence, the feature "*in an effective amount ..... not more than 52°C*", in the context of the patent in suit, is to be construed as meaning that the plasticizer component (c) must be present in an amount effective to lower the temperature of the major DSC peak as compared to the composition not including the plasticizer.

ii) Based on this reading, a hypothetical composition as conceived by the Appellant under 2.4.2, *supra*, would definitely not fall under claim 1 of auxiliary request 1 since it would have the major DSC peak at a temperature higher than 52°C.

iii) Likewise, the hypothetical composition referred to under 2.4.3, *supra*, would clearly also **not** fall under claim 1 of auxiliary request 1 since the amount of the selected plasticizer (component (ii)) would not, by itself, be "*effective*" to lower the major DSC peak temperature of the composition to a value  $\leq 52^{\circ}\text{C}$ .

iv) The Board therefore concludes that the deletion of

the alternative "*unsaturated alcohols containing from 12 to 18 carbon atoms*" from claim 1 as granted made in claim 1 of auxiliary request 1 merely restricts the number of alternative plasticizers that may be used to suppress the major DSC peak temperature to  $\leq 52^{\circ}\text{C}$ .

It does *prima facie* neither extends the scope of protection nor gives rise to clarity issues.

- 2.4.5 In contesting the admittance of an amended claim request, an Opponent may of course always invoke the possibility of new issues under Articles 123(3) and/or 84 EPC arising from a given amendment to a claim. However, in the present case, there was not even *prima facie* a sound possibility of the objections having some merit/relevance, which could have, in principle, justified the non-admittance of the late filed request at issue.

#### *Auxiliary request 1 - Formal allowability*

### 3. Compliance with Article 123(2) EPC

- 3.1 Also with respect to claim 1 of the auxiliary request 1, the Appellant objected that although the plasticizers referred to in parts (i), (ii) and (iii) of the claim (reference having been incorporated in claim 1 during substantive examination), were mentioned on page 15 of the application as filed, not all the plasticizers listed on page 15 were actually included according to claim 1 at issue.

The groups of plasticizers as defined in claim 1 were thus arbitrarily carved out of the original disclosure in a way that was not predictable from the original application. In particular, preferred and non-preferred compound types were combined. This arbitrary selection

was even more evident when looking at the examples contained in the contested patent. As a matter of fact, only three plasticizers were tested and only one out of the three, namely Isofol 18E, fell under the compounds listed in claim 1 at issue.

The Appellant thus concluded that the selected subset of alternative plasticizers was not directly and unambiguously disclosed in the original specification. Moreover, page 15 of the application as filed only disclosed fatty acids containing from 12 to 18 carbon atoms and not fatty acids in general, as referred to in claim 1 at issue.

The requirements of Article 123(2) EPC were thus not met.

- 3.2 The Board comes to a different conclusion based on the following considerations.
  - 3.2.1 Page 15 of the application as originally filed discloses the plasticizers suitable to be used in the composition of the invention. Some of them (e.g. "unsaturated" compounds) are "*not preferred*" (see page 15, lines 7 and 8) but were taken up in claim 1 at issue, whereas some others (e.g. the "*principal solvents*" mentioned on page 15, lines 16 to 22) were not incorporated into claim 1.
  - 3.2.2 However, for the Board, this has no bearing on the fact that all plasticizers listed under parts (i), (ii) and (iii) of claim 1 are directly and unambiguously disclosed in the original application as being suitable for the purposes of the invention. That some plasticizers used in the examples do not fall under the ones listed in claim 1 does not alter the fact that all

plasticizer included in claim 1 are disclosed on page 15 of the application as filed.

3.2.3 All the types of compounds listed as possible plasticizers in claim 1 at issue are, therefore, directly and unambiguously disclosed on page 15 of the application as filed.

3.3 Moreover, the expression "*unsaturated and/or branched alcohols **and** fatty acids*" on page 15, lines 5 to 7, discloses the fatty acids as such, i.e. without mandatorily linking them to specific numbers of carbon atoms.

3.4 It is thus not apparent to the Board that some subject-matter not disclosed in the application as filed was "carved out". Hence, the Board concludes that claim 1 of auxiliary request 1 meets the requirements of Article 123(2) EPC.

#### *Auxiliary request 1 - Novelty*

4. Novelty objections were raised on the basis of documents D1, D3, D4/D4a/D4b and D9.

4.1 Document D1

4.1.1 According to the Appellant, D1 disclosed fabric softening compositions comprising components (a), (b) and (c) as defined in claim 1 at issue, as allegedly apparent from the following considerations.

i) The compositions exemplified in Tables 1a and 9 all comprised "DEEDMAC". The latter component was, according to paragraph [0116] of D1, a commercially available product comprising an ester quat ("di[2-(hardened tallowoyloxy-)ethyl] dimethyl ammonium chloride") meeting the definition of component (a)

according to claim 1 at issue, as well as the fatty acid from which DEEDMAC was derived, and which met the definition of plasticizer component (c) according to claim 1 at issue, its branched nature being apparent from paragraph [0023] of D1, mentioning a "low level of branching".

Table 9 of D1 described compositions additionally containing the sucrose ester "Ryoto ER290", another ingredient meeting the definition of plasticizer component (c) as defined in claim 1 at issue.

ii) A perfume (component (b) according to claim 1 at issue) was also comprised in the composition(s) described.

iii) The pH values of the exemplified compositions were not expressly indicated in the examples, but according to paragraph [0080] of D1, the pH values of the compositions disclosed preferably fell within the range of from 2.5 to 4. This range significantly overlapped with the range of from 2 to 3 prescribed by claim 1 at issue, and the explicitly disclosed value of 2.5 fell within the latter range.

D1 thus disclosed *inter alia* compositions comprising components a), b) and c) having a pH value in said region of overlap. This disclosure only implied a single selection (namely of pH) from a list. The pH range defined in claim 1 at issue could not confer novelty to the claimed subject-matter.

#### 4.1.2 The Board disagrees.

i) D1 contains no direct and unambiguous indication that the fatty acid from which DEEDMAC is derived actually falls under the definition of plasticizer

component (c) according to claim 1. More specifically there is nothing on file permitting to conclude

- whether the fatty acid referred to in paragraph [0116] is actually unsaturated and/or branched. Paragraph [0023] invoked by the Appellant in this connection, although referring to a "low level of branching", does not specifically refer to DEEDMAC, i.e. to the ester quat used in the examples of D1;
- that the hardened tallow fatty acid referred to in paragraph [0116] is liquid at room temperature; or
- that such fatty acid is present in the compositions in an amount effective to lower the major DSC peak temperature of the composition below the major DSC peak temperature of the composition not including the selected plasticizer (see 2.4.4, *supra*), let alone to  $\leq 52^{\circ}\text{C}$ .

ii) The sucrose ester "Ryoto ER290" mentioned in Table 9 of D1 was referred to by the Appellant during oral proceedings for the first time. For this compound, described as "oil" in paragraph [0127], it was neither shown

- that such an "oil" would be understood by the skilled person as to being "liquid" under normal conditions  
nor
- that it was present in an amount lowering the major DSC peak temperature of the composition below the major DSC peak temperature of the composition not including the selected plasticizer, let alone to  $\leq 52^{\circ}\text{C}$  (see 2.4.4, *supra*).

iii) Moreover, the Board holds that each of the specific compositions disclosed in said Tables 1a and 9 of D1 in terms of their components and relative amounts thereof has inherently a specific, discrete pH value. These values are, however, not expressly indicated in Tables 1a and 9 of D1.

This gap of information cannot be filled by combining the features pertaining to the specific examples with a more general element of the disclosure, i.e. one numerical boundary (pH = 2.5) of a (preferred) pH range mentioned in paragraph [0080] of D1.

4.1.3 In the Board's judgement, D1 does not, for the above reasons alone, directly and unambiguously disclose a composition meeting all the features of claim 1 at issue.

4.2 Document D3

4.2.1 According to the Appellant, composition B according to example 1 of D3 (cf. page 6) also displays all the features of claim 1 at issue, as allegedly apparent from the following considerations.

i) Specifically, the presence of 10 wt% citric acid led to a pH value between 2 and 3.

ii) Moreover, composition B contained 0.83% of a fatty alcohol containing 16 to 18 carbon atoms, which thus fell under the definition of plasticizer (c) as given in claim 1 at issue. The person skilled in the art seeking to reproduce said composition B had to select an appropriate fatty alcohol. He/she would select an alcohol from the list indicated in D3 (page 5, lines 3 to 10), which specifically included fatty alcohols

having a straight or branched alkyl or alkenyl hydrophobic group with 10 to 24 carbon atoms. The fact that such a selection from a single list had to be made within the disclosure of D3 could not confer novelty to the claimed subject-matter.

4.2.2 The Board cannot follow this argumentation.

i) First, the indication that the composition contains 10 wt% citric acid does not necessarily imply a pH value of the composition between 2 and 3, it could also be, for instance, lower than 2. Besides citric acid, composition B of example 1 of D3 includes a number of other components, whose influence on the pH value of the composition is not *prima facie* apparent.

Therefore, D3 itself does not directly and unambiguously disclose that the pH value of said composition B is within the range according to claim 1 at issue, and there is no evidence on file showing that this would implicitly be the case.

ii) It is not indicated whether the "*fatty alcohol (C16-18 alcohol)*" included in composition B of D3 is "*branched*" as required by claim 1 at issue. The fact that D3 (*loc. cit.*) lists a number of possible straight or branched fatty alcohols does not permit complementing the description of composition B by selecting one of the specific fatty alcohols disclosed in a more general context in D3.

iii) Finally, it cannot be inferred from D3 that said composition B contains the fatty alcohol in an amount such to lower the major DSC peak temperature of the composition to below the major DSC peak temperature of the composition not including such an alcohol, let



alone to  $\leq 52^{\circ}\text{C}$  (see 2.4.4, *supra*).

4.3 Document D4 (in conjunction with D4a and D4b)

4.3.1 According to the Appellant the subject-matter of claim 1 at issue also lacked novelty over example 4 of document D4, considering the following:

i) The composition of said example 4 included "Rewoquat V3282", i.e. an ester quat meeting the definition of the fabric softening component (a) as defined in claim 1 at issue.

ii) Document D4a complemented D4 by disclosing that the commercial product Rewoquat V3282 always contained a certain amount of the unreacted unsaturated fatty acid, from which the ester quat was derived. Therefore, a plasticizer component (c) as defined in claim 1 at issue was also present.

iii) The technical report D4b/example E, describing a reproduction of the composition according to example 4 of D4, reported a predicted pH value of the composition of 2.26 and a major DSC peak temperature of  $42.3^{\circ}\text{C}$ . The poly(acrylate-co-vinylamine) polymer listed in D4 as a component of the composition of example 4 had not been included in the reproduced composition E since it was not commercially available. According to D4b, however, the pH was not significantly affected by the ingredients other than HCl. More particularly, the polymer solution ingredient of example 4 was in the range of from 6 to 7 (cf. D4, column 6, lines 39 to 42; footnote 2 under the Table in Example 4) and thus only had a minor impact on the pH.

4.3.2 The Board does not find these arguments convincing for the following reasons.

i) The Board does not accept, without further evidence, that the omission of a poly(acrylate-co-vinylamine) polymer component will have no significant influence on the pH of composition E (D4b) supposed to reproduce the composition of example 4 of D4, considering in particular that the polymer concentration in the latter is 7% and thus not insignificant.

The Board further observes that example 1 of D4 illustrates how said poly(acrylate-co-vinylamine) polymer was prepared. As a consequence, even though the polymer might not have been commercially available, nothing prevented the Appellant from following the teaching of D4 by preparing the polymer itself or by replacing it by a chemically similar one. Instead, the Appellant chose to omit this component altogether in reproducing Example 4 of D4.

ii) The technical report D4b mentions a major DSC peak temperature of 42.3°C for the reworked composition. This value was obtained using the commercial product Rewoquat V3282. This product includes, however, a certain amount of unsaturated fatty acid (according to D4a: tallow fatty acid dominantly (~95%) consisting of C16 and C18 species), i.e. of a plasticizer according to component (c) as defined in claim 1 at issue.

There is no information on file as to the temperature of the major DSC peak of the same composition not containing such plasticizer component. Hence, no conclusion can be drawn as to whether or not the composition of Example 4 of D4 comprises the plasticizer in an amount effective to lower the major DSC peak temperature of the composition as compared to the major DSC peak temperature of the composition not

including the plasticizer, as required by claim 1 at issue (see 2.4.4, *supra*).

4.4 In the Board's judgement, the subject-matter of claim 1 of auxiliary request 1 is thus novel over the disclosures in documents D1, D3 and D4 (D4a/D4b) (Articles 52(1) and 54 EPC).

5. Document D9

5.1 Non-admittance into the proceedings

5.1.1 Document D9 was filed by the Appellant almost 3 years later than its statement of grounds. The Respondent objected to its admittance into the proceedings.

5.1.2 At the oral proceedings, the Appellant sought to justify this late filing arguing as follows:

- After having realised that example 4 of document D4 could not be adequately reworked due to the presence of a component (poly(acrylate-co-vinylamine)) not commercially available, a search for a "better document" became necessary. D9 came then to its attention and example 1 thereof (cf. page 34) appeared to be highly relevant. Experimental data could be generated based on the examples of D9 and were submitted in the context of document D8. These data revealed that example 1 of D9 was indeed novelty destroying for the subject-matter of claim 1 at issue and, hence, of very high relevance.
- Moreover, the admittance of D9 would not surprise the Respondent since D9 appeared to correspond to the document cited in paragraph [0025] of the contested patent and its teaching was therefore known to the Respondent. Furthermore, it appeared

upon verification that a document with the publication number indicated in said paragraph [0025], which was very similar to the publication number of D9, did not even exist.

5.1.3 The Board does not, however, consider that these reasons justify the admittance of document D9 as set out below.

- It is worthwhile noting that D9 is a patent application in the name of the Appellant itself.
- The admittance of D9 inevitably leads to a substantial increase in the volume and complexity of the issues to be addressed for the first time at this very late stage of the proceedings. Even assuming, *arguendo*, that D9 was indeed the document actually acknowledged in paragraph [0025] of the contested patent (this was however contested by the Respondent at the oral proceedings), the alleged relevance thereof was only invoked by the Appellant at a very late stage, thereby depriving the Respondent of the possibility to react appropriately.

5.1.4 Moreover, looking at example 1 of D9 (cf. page 34) and of the part of D8 relating to it, it is *prima facie* apparent that the composition disclosed in this example includes the same commercial product Rewoquat V3282 as example 4 of D4. As already noted under 4.3.2, *supra*, this commercial product includes a certain amount of unsaturated fatty acid, i.e. of a plasticizer according to component (c) of claim 1 at issue. Furthermore the last passage of the technical report D8 appears to reveal that the temperature of the major DSC peak of the composition according to Example 1 of D9 has not been measured but merely estimated. In the absence of

comparative measurements of the major DSC peak temperature for compositions comprising and not comprising said plasticizer component, no compelling conclusions could be drawn as to whether or not the plasticizer included in the allegedly novelty-destroying composition of example 1 of D9 was present in an amount effective to lower the major DSC peak temperature of the composition as compared to the major DSC peak temperature of the composition not including the plasticizer, as required by claim 1 at issue.

*Prima facie*, D9 does not, thus, appear to be more relevant than the other prior art documents already present on file.

- 5.1.5 Taking all the above aspects into consideration, the Board has decided, in the exercise of its discretion under Article 114(2) EPC and Article 13(1) RPBA, not to admit document D9 into the proceedings.
- 5.2 Consequently, the novelty objection based on this late-filed document is disregarded too.

*Auxiliary request 1 - Inventive step*

6. The invention
- 6.1 The invention concerns fabric softening compositions comprising an ester-linked quaternary ammonium compound (ester quat).
- 6.2 The description of the patent contains the following indications:
- 6.2.1 A "*problem frequently associated with fabric conditioning compositions [...] is that the product is not stable upon storage [...]. Instability can manifest itself as a thickening of the product upon storage,*

*even to the point that the product is no longer pourable" (see paragraph [0005]).*

*"The problem of thickening upon storage is particularly apparent in [...] fabric softening compositions comprising an ester-linked quaternary ammonium fabric softening material having one or more fully saturated alkyl chains" (see paragraph [0006]).*

*"However, it is desirable [...] to use substantially fully saturated quaternary ammonium fabric softening compounds due to their excellent softening capabilities and because they are more stable to oxidative degradation ... " (see paragraph [0007]).*

*"... ester quats are prone to hydrolysis [...] liberating free fatty acid (FFA) into the system. As hydrolysis continues to occur the level of FFA continues to rise until such point that the system becomes colloiddally unstable" (see paragraph [0009]).*

*"There is a need to be able to make hydrolytically stable products [...] which are based on either fully hardened or substantially hardened actives and which are robust to the full range of perfume types and levels" (see paragraph [0013]).*

7. The closest prior art

7.1 It is common ground between the parties that document D1 represents the most appropriate starting point for the assessment of inventive step. Considering the similarities between the patent in suit and D1 in terms of issues addressed and the compositions disclosed, the Board has no reason to take a difference stance in this respect.

- 7.2 Indeed, D1 (claim 1) is concerned with fabric softening compositions, comprising 1 to 10 wt% of a cationic fabric softening compound.
- 7.2.1 In particular, the cationic compound can be a quaternary ammonium compound having two C12-18 alkyl or alkenyl groups connected to the molecule via at least one ester link (cf. claim 1 and paragraph [0030]). Preferred compounds are listed in paragraph [0034], including several ester quats indisputably falling under the definition of component (a) of claim 1 at issue, *inter alia* N-N-di(tallowoxyloxy ethyl) N,N-dimethyl ammonium chloride.
- 7.2.2 According to paragraph [0040] of D1, a most preferable group of ester quats is the one derived from fatty acids having an iodine value of 5 to 25 (i.e. partially unsaturated).
- 7.2.3 According to paragraphs [0073] and [0075] C8-C24 fatty acids and perfumes may be added to the softening compositions as optional co-actives. The pH of the compositions is preferably at least 1.5 and/or less than 5, more preferably from 2.5 to 4 (cf. paragraph [0080]).
- 7.2.4 The disclosed compositions are said to have a very stable viscosity upon storage [cf. paragraph [0087]].
- 7.3 More particularly, the Board accepts, that a fabric softening composition comprising an ester quat as described in paragraph [0040] of D1 (see 7.2.2, *supra*) can be regarded as a most appropriate starting point for the assessment of inventive step, as put forward by the Appellant, considering that the ester quat component (a) according to claim 1 at issue is derived from fatty acids having an iodine value from 0 to 20

(to be compared to the most preferred range of 5 to 25 according to paragraph [0040] of D1).

8. Technical problem

In the light of this closest prior art, the technical problem consisted in providing an ester quat based fabric softening composition with improved storage stability (patent in suit, paragraphs [0027] and [0032]).

9. Solution

As a solution to this technical problem, the patent in suit proposes the "*fabric softening composition[s]*" according to claim 1 at issue, which comprise an ester quat component (a) as defined in the claim, the composition(s) being also characterised in particular by

*"a pH from 2 to 3"*

and in that it contains

(a) "*at least 0.15% by weight of perfume*"

as well as

(b) *a plasticizer which is liquid at ambient temperature, in an effective amount such that the fabric conditioning composition has a major phase transition peak of not more than 52°C measured by differential scanning calorimetry (DSC),*

*wherein the plasticiser is selected from*

(i) *branched alcohols containing from 12 to 18 carbon atoms and unsaturated and/or branched fatty acids,*



- (ii) *long chain fatty esters, and*
- (iii) *D(polyoxypropylene) (polyoxethylene) (polyoxypropylene) block copolymers".*

10. Success of the claimed solution

10.1 According to the contested patent, by

- including a plasticizer of the type defined in claim 1 as component (c) in a composition of an ester quat derived from a fatty acid having an iodine value from 0 to 20 and
- adjusting the pH of the composition to a value in the range of from 2 to 3,

the major DSC peak temperature of the composition is lowered to below 52°C and its long-term storage stability is improved (see paragraphs [0030]-[0032]).

10.2 The examples of the patent in suit, particularly examples 11, K, L and M (paragraph [0085]) as compared to examples 5 to 7 (paragraph [0071], plasticizer "Stenol 16-18L" not according to component (c) of claim 1), show that by setting the pH of such an ester quat composition between 2 and 3 and by adding a plasticizer of the type defined in claim 1 as component (c), i.e. the branched alcohol Isofol 18E, the major DSC peak temperature of the composition is lowered and suppressed below 52°C (see the results in terms of major DSC peak temperature as reported in the Table in paragraph [0085] as compared to the results in the Table in paragraph [0071]). Moreover, improved viscostability upon storage is achieved (acceptable viscosity after 12 weeks, see paragraph [0084] as compared to unacceptable thickening by 8 weeks storage, see paragraph [0070]).

- 10.3 In the absence of evidence to the contrary, the Board has no reason to doubt that the technical problem posed (8, *supra*) is effectively solved by the claimed compositions across the whole breadth of claim 1 at issue.
- 10.4 In attacking inventive step, the Appellant argued that the patent in suit addressed a problem (poor stability upon storage) that was only encountered when using fully saturated ester quats, i.e. those derived from fatty acids having an iodine value of about zero. Paragraphs [0007], [0011] and [0042] of the contested patent allegedly confirmed this view, and the examples of the patent all concerned fully saturated ester quats only.
- 10.4.1 More particularly, the Appellant alleged that only fully saturated ester quat compositions had a major DSC peak temperature  $> 52^{\circ}\text{C}$  by virtue of the semi-crystalline L(beta) bi-layer phase structure formed. It referred to paragraph [0010] of the patent in suit, confirming that only fully hardened ester quats formed said structure.
- 10.4.2 Therefore, the need to lower the major DSC peak temperature to  $\leq 52^{\circ}\text{C}$ , in order to achieve a high viscostability, as referred to in the patent, only made sense for compositions of fully hardened ester quats. The problem of poor stability corresponding to a higher major DSC peak temperature did not exist for compositions including ester quats derived from fatty acids with iodine values ranging from 5 to 20, which, however, also fell within the ambit of claim 1 at issue. Evidence of this conclusion could be found in document D8: Example 1 of D8 was carried out with a composition comprising the commercial ester quat

Rewoquat V3282, which was derived from a tallow fatty acid with an iodine value of 18. The results showed that in the absence of a plasticizer, the composition was viscostable and had a major DSC peak temperature of around 43°C.

10.4.3 The Appellant thus concluded that the subject-matter of claim 1 at issue did not achieve any technical effect over the closest prior art (7.3, *supra*), at least as far as it concerned compositions of ester quats derived from fatty acids with a iodine value ranging from 5 to 20, for which the problem of poor stability as stated in the patent did not exist. It also referred to the examples of the patent in suit, which showed a technical effect only for a fully hardened ester quat and only with a single plasticizer, Isofol 18E, out of all possible plasticizers encompassed by claim 1.

10.4.4 The only possible technical problem was therefore to provide a further composition containing the ester quat of the closest prior art.

10.5 The Board does not follow this argumentation for the following reasons.

10.5.1 There is no evidence on file

- that only compositions comprising ester quats derived from fatty acids with iodine values ranging from 0 to 5 will have a major DSC peak temperature > 52°C as alleged by the Appellant, or
- that only these ester quats form the mentioned semi-crystalline L(beta) bi-layer phase structure and thus present viscosity problems upon storage.

10.5.2 Paragraph [0010] of the patent in suit merely contains a not further substantiated statement that "*fully*

*hardened systems*" will "*typically form*" said undesirable semi-crystalline L(beta) bi-layer phase structure, without, however, giving a precise definition of "*fully hardened system*", let alone in terms of a precise maximum iodine number of the precursor fatty acid.

A definition of what the person skilled in the art would understand under a "*fully hardened system*" cannot be gathered from D1, either. In paragraph [0040] of D1, those ester quats which are derived from fatty acids having an iodine value ranging from 5 to 140, i.e. in a range much broader than the one defined in claim 1 at issue, are considered as "*at least partially saturated*".

Therefore, the Board holds that the Appellant did not convincingly establish in which region of relatively low iodine numbers there was a strict correspondence with a particular physical state of the ester quat composition, let alone with its major DSC peak temperature and viscostability.

10.5.3 The Board acknowledges that the results of examples 11, K, L and M referred to under 10.2, *supra*, were obtained with a single ester quat and a single plasticizer. However, although the opposition was rejected by the Opposition Division, the Appellant did not submit any counter-evidence or cogent argumentation corroborating its view that the sought-for viscostability improvement is not attained over the full breath of claim 1 at issue.

Example 1 of document D8, invoked by the Appellant, was carried out on a composition containing the commercial ester quat Rewoquat V3282. As explained by the

Appellant itself with reference to D4a, such a product already contains a (fatty acid) plasticizer in the sense of component (c) according to claim 1 at issue. The fact that such a composition showed a major DSC peak temperature lower than 52°C and a high viscostability appears to confirm the operability of the invention rather than showing that the sought-for improvement is not attained.

11. Non-obviousness of the solution

11.1 The composition defined in claim 1 at issue differs from the composition of D1 identified as the closest prior art (see 7.3, *supra*) at least in that according to the former the pH must be in the range from 2 to 3, at least 0.15 wt% perfume must be included and a plasticizer component (c) must be present in an amount effective to lower the major DSC peak temperature of the composition and to suppress it to  $\leq 52^{\circ}\text{C}$  (see 2.4.4, *supra*).

11.2 What remains to be decided is thus whether or not, having regard to the state of the art and the relevant common general knowledge, it was obvious to the skilled person seeking to solve the posed technical problem (8, *supra*) to modify the composition of D1/paragraph[0040] by implementing these differentiating features.

11.3 The Appellant argued that it was common general knowledge that low pH values had beneficial effects on fabric softening compositions including ester quats. It referred in particular to paragraph [0010] of the contested patent and to document D5. The latter disclosed on page 2, third paragraph, that, by keeping the pH within a certain range, softening compositions with excellent hydrolytic stability upon storage could be obtained. The examples of D5 even specifically

described compositions with pH values falling in the range between 2 and 3.

Perfumes were standard components of fabric softening compositions and also mentioned in D1 itself, paragraph [0075], as optional ingredient.

A plasticizer component (c) as defined in claim 1, was implicitly present in the compositions of D1, since the ester quats as mentioned in paragraph [0040] of D1 already implied the presence of unreacted fatty acids. Additionally, fatty acids were listed in D1, paragraph [0073], as optional ingredients. The differentiating features could thus not justify acknowledging an inventive step.

11.4 The Board comes to the opposite conclusion. Even considering, *arguendo*, that the person skilled in the art would follow the teaching of D5 and adjust the pH of a composition based on an ester quat according to paragraph [0040] of D1 between 2 and 3 in order to improve the long-term stability of the composition, there is still no indication in the state of the art invoked that would prompt the person skilled in the art to include a plasticizer of a type and in an amount as defined in claim 1 at issue into the composition of the closest prior art.

11.4.1 In particular, there is no evidence on file showing that ester quats as defined in paragraph [0040] of D1 always include (implicitly) unreacted fatty acids as alleged by the Appellant, let alone fatty acids meeting the requirements of claim 1, i.e. being "*liquid at ambient temperature*" and present in an amount effective to lower the major DSC peak temperature of the composition and to suppress it to  $\leq 52^{\circ}\text{C}$  (see 2.4.4, *supra*).

11.4.2 Although it is indicated in paragraph [0073] of D1 that fatty acids may be added, the nature of such fatty acids is not further specified and a relationship between their amount and the major DSC peak temperature of the composition is not addressed.

11.5 In the Board's judgement, it was thus not obvious to the person skilled in the art to modify a composition according to the closest state of the art such as to arrive at a composition including all the features of claim 1 at issue.

The subject-matter of claim 1 at issue and of claims 2 to 10 dependent thereon thus involves an inventive step (Articles 52(1) and 56 EPC).

*Conclusion*

12. The claims according to the Respondent's auxiliary request 1 are thus not objectionable on the grounds invoked by the Appellant.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside
2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of claims 1 to 10 filed as auxiliary request 1 with a letter dated 11 October 2017 and a description to be adapted where appropriate.

The Registrar:

The Chairman:



D. Magliano

B. Czech

Decision electronically authenticated