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# Datasheet for the decision of 24 October 2019

**Case Number:** T 2144/17 - 3.3.06

**Application Number:** 06124062.8

**Publication Number:** 1927651

**IPC:** C11D1/825, C11D3/20, C11D3/36, C11D3/37, C11D3/43, C11D17/04

**Language of the proceedings:** EN

**Title of invention:**
Liquid hard surface cleaning compositions

**Patent Proprietor:**
The Procter & Gamble Company

**Opponent:**
Henkel AG & Co. KGaA

**Headword:**
Hard surface cleaning composition/The Procter & Gamble Company

**Relevant legal provisions:**
EPC Art. 52(1), 56

**Keyword:**
Inventive step - (yes)

**Decisions cited:**

**Catchword:**

Europäisches Patentamt
European Patent Office
Office européen des brevets

**Beschwerdekammern**

**Boards of Appeal**

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**Case Number: T 2144/17 - 3.3.06**

# D E C I S I O N
# of Technical Board of Appeal 3.3.06
# of 24 October 2019

| | |
|---|---|
| **Appellant:** (Opponent) | Henkel AG & Co. KGaA<br>Henkelstrasse 67<br>40589 Düsseldorf (DE) |
| **Representative:** | Henkel AG & Co. KGaA<br>CLI Patents<br>Z01<br>40191 Düsseldorf (DE) |
| **Respondent:** (Patent Proprietor) | The Procter & Gamble Company<br>One Procter & Gamble Plaza<br>Cincinnati, OH 45202 (US) |
| **Representative:** | P&G Patent Belgium UK<br>N.V. Procter & Gamble Services Company S.A.<br>Temselaan 100<br>1853 Strombeek-Bever (BE) |
| **Decision under appeal:** | **Decision of the Opposition Division of the European Patent Office posted on 8 August 2017 rejecting the opposition filed against European patent No. 1927651 pursuant to Article 101(2) EPC.** |

**Composition of the Board:**

| | |
|---|---|
| **Chairman** | L. Li Voti |
| **Members:** | G. Santavicca |
| | C. Brandt |

## Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division of the European Patent Office rejecting the opposition filed against European patent No. 1 927 651.

II. Independent claims 1, 13 and 16 as granted read, respectively, as follows:

"*1. A liquid cleaning composition having a pH between 3 and 7 comprising :*
*a) non ionic surfactant or a mixture thereof,*
*b) an amine oxide or a mixture thereof,*
*c) a glycol ether solvent,*
*d) a chelant,*
*e) a cationic polymer,*
*characterized in that the composition is free of anionic surfactant.*"

"*13. A process of treating a hard-surface characterized by applying a liquid cleaning composition according to any of the preceding claims onto said hard-surface.*"

"*16. The use of the composition as defined in claim 1 to 12 to remove greasy soap scum of hard surfaces.*"

III. With its statement setting out the grounds of appeal the appellant (opponent) filed three new items of evidence as documents B1 to B3.

It maintained that, taking D1 as the closest prior art and considering the common general knowledge disclosed in B1 to B3, the claimed subject-matter lacked an inventive step. Alternatively, the claimed subject-matter lacked inventive step also over D3.

IV. With its response dated 23 February 2018, the respondent (patent proprietor) maintained its main request and auxiliary requests 1 to 3 as filed in opposition proceedings. It also filed a new set of claims as auxiliary request 4 as well as new items of evidence as documents B4 and B5.

It contested all the Appellant's arguments and maintained that D3 (GB 2 340 501 A), rather than D1 (US 2006/0009369 A1), was the closest prior art, and that the claimed invention was not obvious therefrom.

V. In a communication in preparation for oral proceedings, dated 16 August 2019, the Board took stance on the admissibility of the new items of evidence, holding in particular that the common general knowledge invoked on their basis did not appear to be contested. The Board also gave its preliminary opinion on the issue of inventive step, *inter alia*, that D3, rather than D1, appeared to disclose the closest prior art and that, even if the technical problem were formulated as the mere provision of further cleaning compositions for delicate hard surfaces, the claimed subject-matter did not appear to be obvious over the invoked prior art.

VI. Oral proceedings were held on 24 October 2019. As the common general knowledge dealt with in late filed documents B1 to B3 was acknowledged not to be in dispute, they were not relied upon during the discussion. The respondent no longer maintained its request to admit late filed documents B4 and B5, i.e. argued its case without referring to them. The appellant argued its inventive step objection only on the basis of D3. As regards the objection of lack of an inventive step over D1, it referred to its written submission thereon.

VII. The appellant requested that the decision under appeal be set aside and that the European patent No. 1 927 651 be revoked.

It also requested that documents B1, B2 and B3, filed with the statement of grounds of appeal, be admitted into the proceedings.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained as granted, or, alternatively, that the patent be maintained in amended form according to any of auxiliary requests 1 to 3 filed with letter dated 25 April 2017, or of auxiliary request 4 filed with the response of 23 February 2018 to the statement of grounds of appeal.

## Reasons for the Decision

*Admissibility of new items of evidence B1 to B3*

1. At the oral proceedings, neither the admissibility of B1 to B3 nor the common general knowledge dealt with therein was in dispute. Moreover, as inventive step was only discussed on the basis of D3, they were no longer relied upon by the appellant. The Board has thus no reason to deviate from the preliminary opinion given in its communication in preparation for oral proceedings that these new documents need not be considered for the decision. Consequently, no further details thereon are given in the decision.

*Main Request (patent as granted)*

*Inventive step*

2. The present invention relates to liquid compositions for cleaning hard surfaces (paragraph [0001] of the patent in suit). The description ( paragraph [0004]) addresses the need for the development of hard surface cleaning compositions with better cleaning performance on delicate surfaces (such as plastic, metal or enamel, see paragraph [0003])). The invention thus sets out the objective (paragraph [0005]) to provide hard surface cleaning compositions well adapted to treat delicate surfaces wherein the composition has improved soap scum cleaning performance while also delivering excellent lime scale removal performance.

These objectives are solved (paragraph [0006]) by a composition as defined in claim 1, comprising a nonionic surfactant or mixture thereof, an amine oxide or mixture thereof, a glycol ether solvent, a chelant and a cationic polymer, which composition does not comprise anionic surfactants and has a pH between 3 and 7.

Thanks to these particular components and properties, the claimed compositions provide additional advantages, as they are safe, i.e. not skin aggressive (see paragraph [0007]).

*The closest prior art*

3. The appellant has maintained its written attack that D1 rather than D3 discloses the closest prior art for assessing the obviousness of the claimed composition according to Article 56 EPC and backed up its position with common general knowledge.

3.1 The Board cannot share the position of the appellant, and maintains its provisional opinion expressed in the communication in preparation for oral proceedings that D3 rather than D1 discloses the closest prior art for assessing obviousness of the claimed solution, for the following reasons:

3.1.1 As to the suitability of D1 as the closest prior art, the appellant relied on the following pieces of disclosure thereof:
- D1, as the patent in suit, concerns the cleaning of hard surfaces including bathroom surfaces, as apparent from its paragraph [0010];
- as soap scum normally forms on bathroom surfaces, as generally known, D1 too addresses the problem of removing soap scum therefrom;
- the compositions illustrated in Examples 17, 19 or 20 of D1 have almost all of the features in common with the composition of claim 1 at issue;
- it is generally known that to safeguard delicate surfaces, such as enamel and joints/sealants present in bathrooms, the pH of the cleaning compositions should not be lower than 3 or 4;
- hence, D1 shares with the patent in suit both similarity of objectives and commonality of features.

3.1.2 The Board, however, in these respects, shares the objections raised by the respondent, in particular:
- paragraph [0010] of D1 only generically discloses the use of the compositions of D1, which mandatorily include a cationic biocide (first sentence of paragraph [0010]), for cleaning a multitude of hard surfaces (page 2, left column, lines 31-59), *inter alia* bathroom surfaces (lines 37-38), without mentioning what soil is to be removed thereby. Indeed, the only mention of a function in paragraph [0010] (page 2, right column,

lines 21-22) focuses on disinfecting, sanitizing and sterilizing, which action is mainly the result of the presence of the biocide;
- the compositions illustrated in the invoked examples of D1 are more specific examples (see paragraph [0084]) of improved compositions of D1, the general formulation of which (see paragraph [0083]) however merely includes a cationic biocide, a surfactant and water;
- the invoked compositions of Examples 17, 19 and 20 do not mention any specific cleaning purpose to be achieved thereby and do not disclose their pH. They (certainly) list as components a glycol ether solvent (e.g.PnB), a non ionic surfactant (e.g. APG 325), an amine oxide, a chelant (e.g. DiPotassium EDTA) and a cationic polymer (e.g. Gafquat 440). However, all of them are only optionally present (see 0% in Example 17), or almost all of them are optional (see 0% in Examples 19 and 20, where only APG 325 and Gafquat 440 are not indicated as optional components). Hence, the invoked common components are not mandatorily all present in combination;
- it follows therefrom, that soap scum removal is not implicit from paragraph [0010] of D1, even if considering common general knowledge, and that the choice of the compositions of the invoked Examples 17, 19 and 20 appears to be retrospective, i.e. merely based on the highest possible count of alleged common features, which however are mostly disclosed as being optional, thus not being necessarily disclosed in combination as required in claim 1 at issue.

3.1.3 Hence, the suitability of D1 as the closest prior art is not apparent from the pieces of disclosure of D1 invoked by the appellant.

3.2 Instead, D3 (e.g. page 2, lines 3-7; paragraph bridging pages 2 and 3) addresses lime scale and soap scum removal from hard surfaces and (page 9, lines 12-15), water and stain repellency, hence long term cleaning and sanitizing effects. The cleaning of delicate surfaces is not explicitly addressed.

3.2.1 The aqueous cleaning compositions of D3 (paragraph bridging pages 8 and 9) are acidic (pH of 4 or less, preferably less than 3) and comprise an acid, an amine oxide, a film-forming organosilicone quaternary ammonium compound, a non ionic surfactant, an organic solvent and, optionally, an amphoteric surfactant. The acids used (page 8, lines 15-26) include citric, sulphamic and glycolic acids.

3.2.2 The specific composition illustrated in e.g. Example 1 of D3 is the least acidic (pH 2.26) and comprises an organosilicone quaternary ammonium compound (AEM 5700 (42%)), an octyl amine oxide (Mackamine C-8 (40%)), a non ionic alcohol ethoxylate surfactant (Neodol 1-9 (100%)), diethylene glycol n-butyl ether (Dowanol DB (100%)) as a glycol ether solvent, and two acids (glycolic and citric acids). Although the preferred compositions of D3 should be essentially free from conventional chelants, such as nitrogen containing organic compounds (page 8, lines 11-14), the citric acid contained in the composition of Example 1 (as one of the acidic pH adjusting constituents; see page 8, lines 19-22) is also a known chelant. Thus, Example 1 of D3 discloses an acidic composition with features a), b), c) and d) of claim 1 at issue.

3.2.3 Considering the similarities in terms of objectives/ problems addressed (lime scale and soap scum removal from hard surfaces, water and stain repellency, hence

long term cleaning and sanitizing effects) and solutions proposed (see e.g. Example 1 thereof) with the patent in suit, the Board thus has no reason to deviate from the choice of D3 as the closest prior art, which thus objectively remains the most suitable closest prior art. In particular, the composition according to Example 1 thereof discloses the closest prior art embodiment.

3.3 The composition of Claim 1 at issue is **distinguished from** the the closest embodiment of D3 (composition of example 1 of D3) in that it has a pH between 3 and 7 and in that it includes a cationic polymer.

*The technical problem*

4. During oral proceedings the appellant formulated the technical problem underlying the invention starting from D3/example 1 as the closest prior art, as the provision of a further hard surface cleaning composition which provides comparable next time cleaning benefits as regards soap scum and lime scale removal and is more safe on delicate surfaces. The board thus accepts, for the sake of argument in the appellant's favour, this formulation of the technical problem.

4.1 The success of the claimed solution to this technical problem is not in dispute.

*Obviousness*

5. It remains to be decided whether the skilled person, starting from the composition of Example 1 of D3, would have found any motivation within the teaching of D3 (the only document invoked by the appellant in this

respect at the oral proceedings) in order to arrive at a composition as claimed.

5.1 Even if, *arguendo*, on the basis of the disclosure on pages 2 (lines 18-19) and 8 (lines 17-18) of D3, the skilled person would have considered obvious to increase the pH of the composition of example 1 of D3 above 3 (and thus within the claimed range of between 3 and 7) in order to safeguard delicate surfaces, the Board has no reason to deviate from the finding in the decision under appeal that the paragraph of D3 bridging pages 1 and 2 and reading: "*While it is known that polymers and film forming materials can be utilized to give a hard surface a protective layer...such materials are usually not compatible with chelating agents, quaternary ammonium salts, or in non-neutral pH conditions (i.e. acidic) that are known to be advantageous for cleaning and disinfecting of hard surfaces*" teaches away from adding also a cationic polymer to the composition of Example 1 of D3, let alone in view of treating delicate surfaces such as enamel or plastics in respect of next time cleaning, which purpose is simply not so addressed in D3.

5.2 The board cannot follow the appellant's argument that the alleged prejudice indicated in said passage of D3 had been overcome by the disclosure of D3 itself since the hard surface cleaners of D3 comprise an organosilicone quaternary ammonium film forming compound. To the contrary, in the board's view, it is clear from the teaching of D3 that it has been found that this organosilicone compound, at variance with the film forming polymers mentioned in the paragraph bridging pages 1 and 2, is compatible with the other components of an acidic composition. D3 contains

instead no teaching that a cationic polymer would be compatible and could be used.

Therefore, the teaching of D3 would not lead the skilled person to the subject-matter of claim 1 at issue.

5.3 At the oral proceedings, the appellant has referred also to its written submission in respect of D1. However, for the Board, if D1 were considered alone, the skilled person would not gather the information that all of the components listed in e.g. Example 17 can be used together in order to clean soap scum from delicate hard surfaces of bathrooms. It rather appears that the various components listed therein are used independently to formulate alternative embodiments. For instance, the combination of amine oxide with nonionics and chelant is not hinted at in Examples 19 and 20 of D1, thus it is not obvious therefrom. Moreover, D1 generally prefers neutral to alkaline pH (see paragraph [0030]).

5.4 The Board thus concludes for the sake of completeness that even if D1 were considered as closest prior art it would not lead to the claimed subject-matter for the reasons already indicated in the board's communication of 16 August 2019.

5.5 Therefore, in the Board's view, the objections raised by the appellant on the basis of D1 or D3 appear to be retrospective. In fact, their disclosures do not suggest or contain any motivation for the skilled person to provide a composition for cleaning hard surfaces comprising all of the components and physical properties as defined in claim 1 at issue.

5.6 The subject-matter of claim 1 at issue thus involves an inventive step (article 56 EPC).

5.7 This finding applies *mutatis mutandis* to the subject-matter of the other independent claims, and *a fortiori* to that of all the dependent claims.

*Conclusio*

6. As the claimed subject-matter is found to involve an inventive step, the main request complies with the requirements of the EPC, and is thus allowable.

## Order

## For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

A. Pinna L. Li Voti

Decision electronically authenticated