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**Datasheet for the decision  
of 8 February 2012**

**Case Number:** T 1797/09 - 3.3.06

**Application Number:** 01988756.1

**Publication Number:** 1328613

**IPC:** C11D 3/37, C11D 3/36

**Language of the proceedings:** EN

**Title of invention:**  
Dish-washing compositions

**Patent Proprietors:**  
Unilever PLC  
Unilever N.V.

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

**Headword:**  
Dish-wash composition/UNILEVER

**Relevant legal provisions:**  
EPC Art. 54(3)

**Relevant legal provisions (EPC 1973):**  
EPC Art. 56

**Keyword:**  
"Inventive step: no (all requests), burden of proof, indirect evidence - post-published"

**Decisions cited:**  
T 0692/09, T 1110/93

**Catchword:**  
-



Case Number: T 1797/09 - 3.3.06

**DECISION**  
of the Technical Board of Appeal 3.3.06  
of 8 February 2012

**Appellant:** Henkel AG & Co. KGaA  
(Opponent) Henkelstrasse 67  
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**Representative:** Stevermann, Birgit  
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**Respondent:** Unilever PLC  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
20 July 2009 concerning maintenance of European  
patent No. 1328613 in amended form.

**Composition of the Board:**

**Chairman:** P.-P. Bracke  
**Members:** G. Dischinger-Höppler  
U. Tronser

## Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning maintenance of European patent No. 1 328 613 in amended form on the basis of 12 claims according to the then pending sole request. The independent Claim 1 reads:

"1. A machine dish wash composition which is in the form of a tablet comprising

- a) a hydrophobically modified polycarboxylic acid
- b) an organic phosphonate and
- c) a polymer of acrylic acid."

Dependent Claims 2 to 11 relate to preferred embodiments of the composition of Claim 1. Independent Claim 12 relates to a process for washing articles in a dish washer.

II. A notice of opposition had been filed against the granted patent, wherein the Opponent sought revocation of the patent on the grounds of Article 100(a) EPC for lack of novelty and lack of inventive step (Articles 54(3) and 56 EPC). The opposition was based, amongst others, on documents

D1 WO-A-02/20708 and

D3 WO-A-99/58633.

III. In its decision, the Opposition Division held that the subject-matter claimed in accordance with the main request fulfilled the requirements of the EPC. In

particular, it was held that document D1 did not disclose the claimed composition in tablet form. Concerning inventive step, the Opposition Division held that starting from the teaching of document D3 as the prior art having the most features in common with the claimed subject-matter, there was no hint in any of the cited prior art documents suggesting an all-in-one ADD/rinse aid product, let alone that the claimed combination of ingredients would allow preparation of such a product. As document D1 was only citable against novelty under Article 54(3) EPC, its content including the examples was irrelevant with respect to the assessment of inventive step.

IV. This decision was appealed by the Opponent, now Appellant.

The Proprietor, now Respondent, filed amended claims in a first auxiliary request under cover of a letter dated 14 April 2010 and in a second auxiliary request during oral proceedings held before the Board of Appeal on 8 February 2012.

Claim 1 of the first auxiliary request differs from that of the main request in that the term "a) a hydrophobically modified polycarboxylic acid" has been replaced by "0.3% to 0.6% by weight of the composition of a hydrophobically modified polycarboxylic acid".

Claim 1 of the second auxiliary request reads:

"1. A process for washing articles in a dish washer comprising the steps of:

- i) adding a machine dish wash composition which is in the form of a tablet comprising
    - a) a hydrophobically modified polycarboxylic acid
    - b) an organic phosphonate and
    - c) a polymer of acrylic acid,to the wash liquor of the dish washer followed by:
  
  - ii) treating articles requiring cleaning with the wash liquor in a conventional manner; wherein no additional rinse aid is present within the dishwasher, and wherein no salt is added to the dishwasher to rejuvenate the ion exchanger."
- V. The Appellant submitted in writing and during the oral proceedings before the Board of Appeal, inter alia, the following arguments:
- The claimed subject-matter was not novel over the disclosure of document D1.
  
  - The claimed subject-matter was not inventive in view of the composition disclosed in the comparative example of document D3 which consists of Acusol 460 ND and a base Product 1 containing a polymer of acrylic acid. As shown by the Appellant's experiments and the examples of document D1, the claimed composition did not display an improved antiscaling and antispotting effect in the dishwasher when compared with this prior art. Hence, the technical problem solved in view of the comparative example of document D3 consisted in the provision of an alternative dish wash composition. However, the distinguishing features, namely the inclusion of phosphonates as well as the provision of

the composition in tablet form, were already suggested in document D3.

- VI. The Respondents refuted all the arguments of the Appellant.

Concerning inventive step, it was submitted that the examples of document D1 were irrelevant in the present case since this document was a prior art under Article 54(3) EPC and therefore not to be considered in the assessment of inventive step. The effect obtained with the claimed combination of features was completely new at the priority date of the patent in suit and consisted in the reduction of filming, spotting and scaling without the need of adding a rinse aid or salt. In the absence of any evidence to the contrary, there was no reason to doubt that this problem has been solved by the claimed subject-matter. Neither document D3 nor any other cited prior art suggested that the new effect could be obtained with the claimed subject-matter, either alone or when combined. The claimed subject-matter was, therefore, based on an inventive step.

- VII. The Appellant requested that the decision under appeal be set aside and the patent be revoked.

The Respondents requested that the appeal be dismissed, or the patent be maintained on the basis of auxiliary request 1 submitted with letter dated 14 April 2010 or on the basis of auxiliary request 2 submitted during oral proceedings.

## Reasons for the Decision

### 1. *Novelty (main request)*

Novelty of the claimed subject-matter has been contested in view of comparative example 12 of document D1 which is a document in accordance with Article 54(3) EPC. This example discloses a dish wash composition dosed via the dispenser cup and comprising Acusol 820 supplied by Rohm and Haas as the hydrophobically modified polymer and, as antiscalants, a mixture of acrylate homopolymer (Sokolan PA25 supplied by BASF) and HEDP which is hydroxy-ethylene 1,1 diphosphonate (page 15 last paragraph to page 18, line 17).

This composition corresponds to that of present Claim 1.

According to the description of document D1, the composition claimed may be in the form of a liquid, powder or, preferably tablet (page 13, lines 13 to 16). The composition of document D1 is formed into a tablet in particular when it is marketed (page 13, lines 26 to 30). However, in the examples of document D1, the form of the composition is not indicated. On the contrary, it is stated that in the examples the base formulation of the dish wash composition is added to the dispenser cup while the hydrophobically modified polymer and the antiscalants are in addition either dosed via the dispenser cup or added directly into the machine.

It follows that for the purpose of the examples of document D1 it was sufficient to add the hydrophobically modified polymer and the antiscalants to the dispenser cup separately from the base formulation.

Hence, the machine dish wash composition of Example 12 which comprises components a), b) and c) is not disclosed as being in the form of a tablet.

The Board concludes therefore, that in view of document D1 the subject-matter is novel under Article 54(3) EPC.

2. *Inventive Step (main request)*

2.1 According to the patent in suit the technical problem to be solved consists in the provision of a dish wash composition which obviates the need for salt or rinse aid in the machine dishwashing process (paragraphs 1 and 5).

As a solution to this technical problem, Claim 1 of the main requests suggests a dish wash composition in the form of a tablet comprising a) a hydrophobically modified polycarboxylic acid, b) an organic phosphonate and c) a polymer of acrylic acid.

It is emphasised that the claimed compositions are particularly effective at antiscaling and antispotting in the machine dish wash process (paragraph 8).

2.2 Document D1 is the only document cited by the Appellant relating to the same technical problem as the patent in suit. However, as it is a document according to Article 54(3) EPC, it does not constitute prior art relevant as a starting point for the assessment of inventive step (Article 56).

The Opposition Division has selected the comparative example of document D3 which comprises Acusol 460 ND as



the closest prior art for the reason that it had the most technical features in common with the opposed patent. The Board agrees with the Opposition Division and the presentation of both parties during appeal proceedings that this example is a suitable starting point for the assessment of inventive step.

- 2.3 Document D3 relates to a machine dish wash detergent or rinse aid formulation which deliver excellent final glassware appearance as evidenced by reduced spotting and filming (page 1, line 10 to page 3, line 27). This effect is obtained by providing a dish wash detergent or rinse aid composition comprising a particular nitrogen containing cationic or amphoteric polymer (Claims 1 and 2).

The superior performance of dish wash detergent formulations containing these polymers with regard to spotting is shown by comparison with formulations containing prior art polymers, inter alia Acusol 460 ND (page 46, Table 2), which is a hydrophobically modified polycarboxylic acid according to Claim 1 of the present main request.

Test 1 of Table 2 is the only one where the polymers are dosed via the dispenser cup together with a base formulation, namely Product 1 of Table 1 (page 44). The latter contains a polymer of acrylic acid.

Hence, document D3 discloses as a comparative example a machine dish wash composition comprising a hydrophobically modified polycarboxylic acid and a polymer of acrylic acid, i.e. components a) and c) of present Claim 1.

- 2.4 This composition differs from the claimed one only in that it is not in the form of a tablet and does not contain an organic phosphonate (component b) of Claim 1).
- 2.5 There is no evidence on file to illustrate that the technical problem mentioned in the patent of obviating the need for salt or rinse aid in the dish washing process, actually has been solved by these distinguishing features.
- 2.6 The Respondents argued, that in the present case, where the technical problem underlying the invention was completely new at the priority date of the patent, it was not necessary to provide evidence to make credible that the technical problem was actually solved. They relied in this respect on decision T 692/09 (not published in the OJ EPO). Given these circumstances, it was prima facie plausible that in view of the comparative example in document D3 the above technical problem was solved by the addition of an organic phosphonate (component b)).

Concerning the tablet form of the composition, the Respondents eventually agreed that there was no pointer in the patent towards a contribution of this feature to the solution of the technical problem.

- 2.7 The Board agrees with the Respondents insofar as a technical problem set out in a patent is considered to be credibly solved by a claimed invention if there exist no reasons to assume the contrary. In such circumstances, it is normally the Opponent's burden to

prove the opposite or at least provide evidence casting doubt on the alleged solution of the problem. If no such evidence is provided, the benefit of doubt is given to the Patent Proprietor. However, if the Opponent succeeds to cast reasonable doubt on the alleged effect, the burden to proof its allegations is shifted to the Patent Proprietor (Case Law of the Boards of Appeal, 6th edition 2010, chapter VI.H.5.).

In the case underlying T 692/09 no such evidence was forwarded by the Opponent.

In the present case, however, the Opponent has pointed to the comparative examples of document D1 where it is shown that the antispotting and antiscaling performance of a dish wash composition containing components a), b) and c) (Example 12) is worse than one containing only components a) and c) (Example 10).

2.8 The Respondents argued that document D1 has to be disregarded as a whole since it is not prior art under Article 56 EPC to be considered for the purpose of inventive step.

2.9 The Board agrees with the Respondents that a piece of the prior art which has not been made available to the public at the priority date of the opposed patent cannot be used directly as evidence for the assessment of inventive step.

However, in the present case document D1 is not considered as direct evidence of the existing prior art but only as evidence used indirectly for a conclusion which may be questioned as to its plausibility. Such a

document which is not itself part of the prior art does not stand and fall with its publication date even on the issue of inventive step (Case Law of the Boards of Appeal, 6th edition 2010, chapter VI.H.4.1 and decision T 1110/03, OJ EPO 2005, 302).

The comparative examples in document D1 are in the Board's opinion equivalent with comparative examples put forward by a party to furnish proof of what it alleges. Such examples are allowable at any reasonable point of the proceedings, provided they are not in abuse of the proceedings.

Hence, the comparative examples of document D1 could have been reworked by the Appellant to illustrate exactly what they actually show in document D1. In fact, the Appellant has reworked some of the examples of document D1 (Examples 7, 9 and 12) and obtained the same qualitative results, namely that compositions containing components a), b) and c) are as insufficient at antiscaling and antispotting as are compositions containing only component a).

The Board further notes that those examples of document D1 which illustrate compositions in accordance with comparative Example 1 of document D3 (Example 10) and composition according to Claim 1 (Example 12) differ from each other not only in that the latter also comprises an organic phosphonate but also in that different brands of acrylic acid polymers have been used. Hence, the antiscaling and antispotting performance may also depend on the particular acrylic acid polymer, a factor not contemplated in the patent in suit.

2.10 As a consequence, the comparative examples in document D1 as well as the Respondents' comparative data cast doubt on the allegation in the patent in suit that the incorporation of an organic phosphonate into the composition according to the comparative example of document D3 would solve the technical problem of obviating the need for salt or rinse aid addition in the dishwashing process.

Since the Respondents have not invalidated that doubt, the technical problem credibly solved by the claimed subject-matter in view of the comparative example of document D3 boils down to the provision of an alternative machine dish wash composition.

2.11 The means proposed in Claim 1 to solve this problem consists in the addition of an organic phosphonate and in that the composition is presented in tablet form.

These measures are, however, disclosed in document D3 as optional in the art of dish wash compositions (page 7, lines 15 to 19 and page 36, line 31 to page 37, line 8).

2.12 The Board, therefore, concludes that starting from the comparative example of document D3 it was obvious for a skilled person, faced with the technical problem of providing an alternative dish wash composition, to add an organic phosphonate and to present the composition in the form of tablets.

3. *First and second auxiliary requests*

3.1 Claim 1 of the first auxiliary request differs from that of the main request in that the amount of component a), 0.3 to 0.6 % by weight of the composition, originally disclosed in dependent Claim 3, has been added.

Claim 1 of the second auxiliary request is based on the original process Claim 15 according to which the claimed composition is used in the wash liquor and no additional rinse aid or salt is present in a dish wash process.

3.2 The Respondents argued that in document D3 the amount of hydrophobically modified polycarboxylic acid was at least 5% by weight and that there was no hint in the prior art that the beneficial effects could be achieved even at the low amounts claimed in the first auxiliary request.

Concerning the second auxiliary request, it was argued that the prior art did not suggest that addition of salt and rinse aid to the dishwasher may be omitted.

3.3 However, no evidence has been provided in support of the allegation that the effect of 0.3 to 0.6% by weight of hydrophobically modified polycarboxylic acid might be comparable to that provided by 5% by weight or that the omission of salt and rinse aid in the dishwasher might produce anything else than more scaling and spotting.

In the absence of any unexpected effect, the Board cannot see an inventive merit in the addition of less hydrophobically modified carboxylic acid and in the omission of salt and rinse aid addition.

On the contrary, it is at the discretion of a skilled person to reduce or omit ingredients used in the prior art of dish washing, e.g. for the purpose of saving costs, and accept the consequences thereof even if they are disadvantageous.

4. For these reasons, the Board finds that the subject-matter of Claim 1 of any of the Respondents' requests does not comply with the requirements of Articles 52(1) and 56 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:

D. Magliano

P.-P. Bracke