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Datasheet for the decision of 08 January 2013

Case Number: T 1055/11 - 3.3.06

Application Number: 06116118.8

Publication Number: 1741774

IPC: C11D 3/39, C11D 1/66, C11D 1/72

Language of the proceedings: EN

Title of invention:
Machine dishwashing compositions and their use

Patentee:
Unilever N.V.
Unilever PLC

Opponents:
Henkel AG & Co. KGaA
RECKITT BENCKISER (UK) Ltd.
THE PROCTER & GAMBLE COMPANY

Headword:
Machine dishwashing composition with high melting point niotensid/UNILEVER

Relevant legal provisions (EPC 1973):
EPC Art. 54(1),(2), 56

Keyword:
"Novelty - main request (yes)"
"Inventive step - main request (yes)"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 105511 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 08 January 2013

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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 11 March 2011 revoking European patent No. 1741774 pursuant to Article 101(3)(b) EPC.

Composition of the Board:

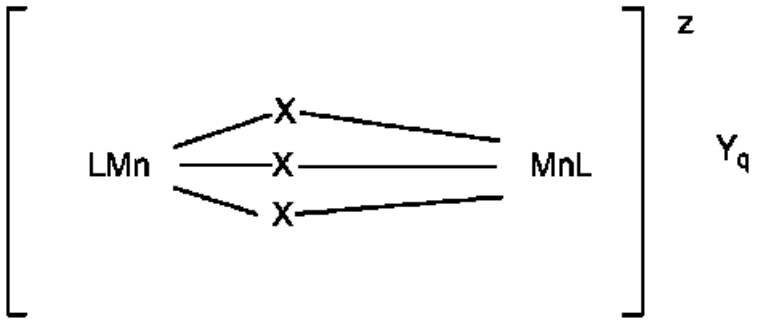
Chairman: P.-P. Bracke
Members: E. Bendl
U. Tronser

Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division to revoke the European patent no. 1 741 774.

II. The set of claims as granted contained the following claims:

"1. An automatic machine dishwashing composition comprising at least 1%, preferably at least 2% by weight of nonionic surfactant, a peroxygen bleach compound and a dinuclear manganese-complex having the general formula:



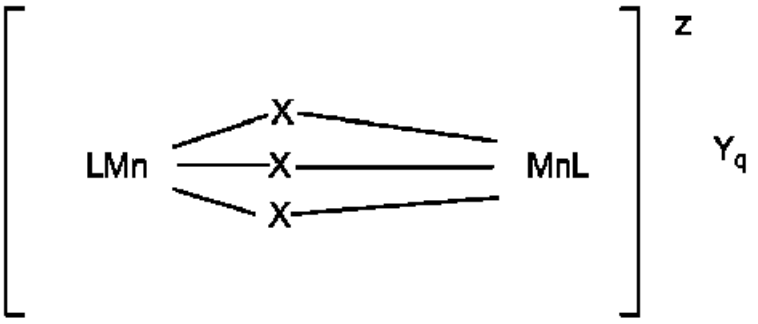
wherein Mn is manganese which can individually be in the III or IV oxidation state; each x represents a coordinating or bridging species selected from the group consisting of H_2O,O_2^{2-},O^{2-},OH^-,HO_2^-,SH^-,S^{2-},>SO,Cl^-,N^{3-},SCN^-, $RCOO^-$,NH_2^- and NR_3, with R being H, alkyl or aryl, (optionally substituted); L is a ligand which is an organic molecule containing a number of nitrogen atoms which coordinates via all or some of its nitrogen atoms to the manganese centres; z denotes the charge of the complex and is an integer which can be positive or negative; Y is a monovalent or multivalent counter-ion, leading to charge neutrality, which is dependent upon the charge z of the complex; and q = $^{z/}$[charge Y]:

wherein at least 50% by weight of the nonionic surfactant is selected from:
(a) at least one nonionic surfactant having a melting point greater than 35°C, preferably greater than 40°C."

"9. A tablet comprising composition according to any preceding claim."

"10. Use of one or more nonionic surfactant components (a):

(a) at least one nonionic surfactant having a melting point greater than 35°C, preferably greater than 40°C; for reducing discolouration in a composition comprising a peroxygen bleach compound and a dinuclear manganese complex having the general formula:



wherein Mn is manganese which can individually be in the III or IV oxidation state; each x represents a coordinating or bridging species selected from the group consisting of H_2O,O_2^{2-},O^{2-},OH^-,HO_2^-,SH^-,S^{2-},>SO,Cl^-,N^{3-},
SCN^-,$RCOO^-$,NH_2^- and NR_3, with R being H, alkyl or aryl, (optionally substituted); L is a ligand which is an organic molecule containing a number of nitrogen atoms which coordinates via all or some of its nitrogen atoms to the manganese centres; z denotes the charge of the complex and is an integer which can be positive or negative; Y is a monovalent or multivalent counter-ion,

leading to charge neutrality, which is dependent upon the charge z of the complex; and q = $^{z/}$[charge Y]."

Claims 2 to 8 were dependent on Claim 1.

III. The Appellants/Proprietors filed on 09 May 2011 an appeal against the decision of the Opposition Division and paid the appeal fee on the same day. The grounds of appeal were submitted on 21 July 2011 together with the claims as granted (main request) and an auxiliary request.

IV. The Respondents/Opponents inter alia regarded both sets of claims as being in contrast to the requirements of Articles 52(1),(2) and 56 EPC 1973, referred to comparative examples which were filed in opposition procedure with the letter of 04 May 2009 and cited documents

D1 = GB-A-2 353 280
D2 = WO-A-92/06984
D3 = EP-A-0 796 317
D4 = EP-A-0 677 576
D16 = WO-A-95/06711.

V. The main arguments of the **Appellants** were as follows:

Novelty

– None of documents D1, D3, D4 is novelty-destroying, as multiple selections have to be carried out for each of the documents to arrive at the subject-matter as claimed.

Inventive step

– D16 is the closest state of the art.

– This document neither relates to automatic dishwashing compositions nor gives a hint towards the impact of the melting point of the nonionic tensid on the problem of reducing discolouration.

– Examples 1a and 1c provided by Respondent I with the letter of 04 May 2009 are not suitable for comparison and therefore cannot proof lack of inventive step.

– Therefore the subject-matter as claimed is non-obvious.

The main arguments of the **Respondents** were as follows:

Novelty

– Examples 23E of D1, Claims 1+3+5 of D3 and Example VII of D4 destroy the novelty of the claimed subject-matter.

Inventive step

– D16 is the closest state of the art.

– The problem underlying the patent-in-suit has not been solved over the entire breadth of the claims, because compositions according to the invention achieve worse results than compositions outside the scope, as has been demonstrated by examples 1a/1c filed with the letter of 04 May 2009.

VI. The Appellants requested that the decision under appeal be set aside and the oppositions be rejected or in the alternative that the patent be maintained on the basis of the auxiliary request submitted with the grounds of appeal.

The Respondents requested that the appeal be dismissed.

Reasons for the Decision

Main request

1. Novelty

1.1 Due to the following considerations the Board does not share the Respondents' view that D1,D3 and D4 destroy novelty of the claimed subject-matter:

1.2 Example 23E of D1 discloses a dishwashing detergent composition comprising in addition to the remaining compounds defined in Claim 1 of the patent-in-suit a so-called "nonionic", i.e. a nonionic surfactant. Nonionic surfactants that are preferred in D1 are listed on page 23 to be glucamides with a C_{5-31} hydrocarbyl residue. According to the Respondents such glucamides have a melting point above 35°C, as exemplified by D2, page 6, lines 18-22.

1.3 Although the cited passage of D2 exemplifies four specific glucamides with softening points at around 100°C, this does not mean that exactly these glucamides were used for preparing Example 23E of D1 and no proof has been submitted by the Respondents that **all** nonionic

surfactants mentioned in D1 possess the desired melting points. Thus, it cannot be directly and unambiguously derived from D1 that compositions as presently claimed are disclosed.

1.4 Furthermore the combination of Claims 1, 3 and 5 of D3 was cited by the Respondents as being novelty-destroying.

1.5 Claim 5 of D3 lists among other bleach catalysts manganese compounds as referred to in the invention under dispute. Thus, from all the compounds listed in Claim 5 a (first) selection has to be made to choose the specific dinuclear manganese compounds.

1.6 Claim 3 of D3 reports on a nonionic surfactant content ranging between 0,1 and 10 wt%. The description cites on page 10, line 11 preferred amounts of 1 to 8 and 0,25 to 4 wt%. Since Claim 1 of the patent-in-suit requires at **least 1%** by weight to be present, a further selection of the amount has to be made.

1.7 Given the need of at least two selections from different lists D3 cannot be regarded to be novelty-destroying.

1.8 Furthermore, Example VII of D4 was mentioned to be novelty-destroying too. This example contains references to compositions K and P of D4, each containing a nonionic surfactant. According to page 10, lines 15-18 of D4 the nonionic surfactants may be solid between 25 and 60°C. Again, no direct and unambiguous disclosure can be found that nonionic surfactants with

melting points greater than 35°C were used in the cited example.

1.9 Due to the reasons as stated above, novelty of the subject-matter of Claims 1, 2-8 and 9 of the main request is given.

1.10 Although Claim 10 of the main request does not refer to a specific amount of nonionic surfactant, the subject-matter of this claim meets the criterion of novelty too, as the **use of a high-melting point surfactant** to reduce discolouration has not been disclosed in D1, D3 or D4.

2. Inventive step

According to the problem and solution approach, which is used by the Boards of Appeal of the European Patent Office in order to decide on the question of inventive step, it has to be determined which technical problem the object of a patent objectively solves vis-à-vis the closest prior art document. It also has to be determined whether or not the solution proposed to overcome this problem is obvious in the light of the available prior art disclosures.

2.1 The problem underlying the patent-in-suit was the reduction of discolouration of automatic dishwashing compositions comprising a nonionic surfactant, a peroxygen bleach compound and a specific manganese complex.

All parties referred to D16 as the closest state of the art. Although this document does not explicitly refer to automatic dishwashing compositions, but inter alia

to detergent compositions containing bleach catalyst compositions, the Board is of the opinion that the skilled person would inherently consider the problems described in D16 also to apply to the context of automatic dishwashing compositions. Therefore the Board agrees that D16 is a suitable starting document for the problem and solution approach.

D16 reports that in those compositions adverse reactions may occur when the manganese complex comes into contact with other components like the nonionic detergent active and the peroxyde bleaching agent. A particular problem mentioned is the formation of brown inactive manganese dioxide.

2.2 The objective problem of the present invention vis-à-vis D16 is to be seen as the provision of an automatic machine dishwashing composition showing reduced discolouration.

2.3 The solution proposed by the present invention is the composition according to Claim 1 and the use according to Claim 10 of the main request.

Apart from the reference to automatic dishwashing compositions D16 differs from the claims of the patent-in-suit also in the teaching about the effect of nonionic surfactants with a melting point greater than 35°C on discolouration.

2.4 The Respondents disputed that the problem has been solved over the entire breadth of the claims. They argued that the tests of the patent-in-suit referred only to tablets with one layer, whereas two or more

layers were encompassed within the scope of the claims. With the letter of 04 May 2009 comparative tests were submitted by Respondent I allegedly showing that two-layer tablets according to the invention had worse properties than two-layer tablets outside the scope of the claims. It was concluded that a technical problem would not exist.

2.4.1 Example 1a as submitted with the said letter of 04 May 2009 contained in one layer the manganese compound and in a **second**, separate **layer** a nonionic tensid with a melting point **below 35°C**.

2.4.2 In contrast thereto, in Example 1c according to the invention the nonionic tensid in the **second layer** was replaced by a nonionic tensid with a melting point **above 35°C** and **additionally** the **first layer** with the manganese compound was supplemented with a further nonionic surfactant with a melting point **below 35°C**.

2.4.3 Thus, not only the kind of nonionic surfactant in the second layer was changed, but also the first layer was supplemented with a nonionic tensid which was not present in Example 1a. Since both examples distinguish in the nonionic surfactants used **and** in the distribution of these surfactants within the tablet, i.e. since the tablets differ in more than one feature, the degree of discolouration of both tablets cannot be compared. Consequently it cannot be concluded that Examples 1a and 1c prove that the problem has not been solved over the entire scope claimed.

2.4.4 The patent-in-suit shows in the examples that tablets with one layer possess improved discolouration

properties when including a nonionic tensid with a melting point higher than 35°C in the dishwashing composition. This has not been disputed by the Respondents.

2.5 Thus, the question to be answered is whether the person skilled in the art would have arrived at the claimed invention in an obvious manner when starting from D16 as the closest prior art.

2.5.1 D16 teaches about problems of discolouration when combining a manganese compound, a nonionic detergent and a peroxide bleaching agent. To overcome the problem the manganese compound has been mixed with a soluble binding agent and an inert solid. Although the soluble binding agent may inter alia be a nonionic surfactant, no teaching about the effect of its melting point on the discolouration properties of the tablet can be found in this anticipation.

2.5.2 Thus, the Board can only come to the conclusion that the subject-matter of Claim 1 of the main request meets the criteria of inventive step. This reasoning applies to Claims 9 and 10 accordingly.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The Oppositions are rejected.

The Registrar The Chairman

D. Magliano P.-P. Bracke