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**Datasheet for the decision
of 19 November 2008**

Case Number: T 1457/06 - 3.3.06

Application Number: 98945170.3

Publication Number: 1003829

IPC: C11D 3/386

Language of the proceedings: EN

Title of invention:

Detergent compositions containing polyethyleneimines for enhanced peroxygen bleach stability

Patentees:

Unilever PLC, et al

Opponent:

The Procter & Gamble Company

Headword:

Enhanced peroxygen bleach stability/UNILEVER

Relevant legal provisions:

EPC Art. 123(2)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Added subject-matter (yes): combination of all features of claim 1 not directly and unambiguously disclosed"

Decisions cited:

G 0001/93, T 0592/99

Catchword:

-



Case Number: T 1457/06 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 19 November 2008

Appellants:
(Patent Proprietors) Unilever PLC
Unilever House
Blackfriars
London
Greater London EC4P 4BQ (GB)

and

UNILEVER N.V.
Weena 455
NL-3013 AL Rotterdam (NL)

Representative: Elliott, Peter William
Unilever Patent Group
Colworth House
Sharnbrook
Bedford MK44 1LQ (GB)

Respondent:
(Opponent) The Procter & Gamble Company
One Procter & Gamble Plaza
Cincinnati
Ohio 45202 (US)

Representative: Samuels, Lucy Alice
Gill Jennings & Every LLP
Broadgate House
7 Eldon Street
London EC2M 7LH (GB)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 8 August 2006
revoking European patent No. 1003829 pursuant
to Article 102(1) EPC 1973.

Composition of the Board:

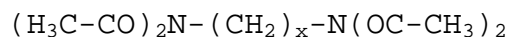
Chairman: P.-P. Bracke
Members: L. Li Voti
A. Pignatelli

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent No. 1 003 829, concerning a detergent composition containing polyethyleneimine.

Claim 1 of the patent as granted reads as follows:

"1. A non-phosphate built, laundry detergent composition comprising:
(a) from 1-75% by weight of a detergent surfactant selected from the anionic surfactants, nonionic surfactants, zwitterionic surfactants, ampholytic surfactants, cationic surfactants and mixtures thereof;
(b) from 5% to 80% by weight of a detergency builder;
(c) from 0.001% to 5% by weight of an enzyme;
(d) from 0.001% to 5% by weight of polyethyleneimine, polyethyleneimine salt or mixtures thereof;
(e) from 0.01 to 60% by weight of a peroxygen bleach compound;
(f) a bleach activator which is an N,N,N',N'-tetraacetylated compound of the formula:



wherein x can be 0 or an integer between 1 and 6; and,
(g) perfume,

wherein the composition is substantially free of chlorine bleach compounds."

Claims 2 to 7 relate to particular embodiments of the claimed composition; claim 8 relates to a method for

laundering fabrics by using an aqueous solution comprising specific amounts of a composition according to any of claims 1 to 7.

II. In its notice of opposition the Opponent sought revocation of the patent *inter alia* on the grounds of Articles 100(a) and 100(c) EPC.

III. In its decision, the Opposition Division found *inter alia* that claim 1 as granted complied with the requirements of Article 123(2) EPC.

In particular, it found that features (f) and (g) of claim 1 were disclosed in the application as originally filed individually and that compositions containing both these features were encompassed by the claims of the original application and specifically disclosed in formulations 1 and 2 of the application as filed; moreover, these features did not contribute to the solution of the technical problem of the invention and their introduction into claim 1 amounted merely to an allowable restriction of the scope of the claim according to G 1/93.

However, the Opposition Division found that the claimed subject-matter lacks an inventive step.

IV. Appeal was filed against this decision by the Patent Proprietors (Appellants).

V. Oral proceedings were held before the Board on 19 November 2008.

VI. As regards Article 123(2) EPC, the Respondent (Opponent) submitted in writing and orally *inter alia* that the class of bleach activators (f) of claim 1 as granted was originally disclosed only in combination with perborate or percarbonate peroxygen bleaches and not in combination with any peroxygen bleach compound encompassed by the granted claim; furthermore, there was no support in the original documents for a combination of the selected class of bleach activators (f) with a non-phosphate built composition having the features (a) to (e) and (g).

As regards the applicability of decision G 1/93 to the present case, the Respondent submitted that the bleach activator (f) was a compound known to react with peroxygen bleaches and which to affect consequently their stability; therefore, such feature (f) contributed to the solution of the technical problem of the invention, which concerned the improved stabilization of peroxygen bleach compounds contained in the claimed composition. The decision G 1/93 thus was not applicable to the present case.

Consequently, in the Respondent's view, claim 1 as granted did not comply with the requirements of Article 123(2) EPC.

VII. The Appellants submitted orally that claim 1 as granted complied with the requirements of Article 123(2) EPC. In particular, it submitted *inter alia* that:

- the selected class of bleach activators of claim 1 as granted was indicated as preferred in the description and tetraacetyl ethylenediamine (TAED), a bleach

activator belonging to this class, was used in the formulations of the examples;

- moreover, even though such bleach activators were disclosed in the original description in combination with perborate and percarbonate, it was derivable from this disclosure that the class of bleach activators (f) could be combined also with other peroxygen bleaching agents, which behave similarly to perborates and percarbonates by producing hydrogen peroxide and generating a perhydroxide which reacts with the bleach activator;

- furthermore, claim 6 of the original application, dependent on claims 1 to 4, listed bleach activators belonging to the class (f), such as TAED; even though this claim required erroneously the peroxygen bleach compound of claim 1 to be selected among the listed bleach activators, the claim has to be understood as requiring the presence of a bleach activator in addition to the peroxygen bleach compound of claim 1 since it was known that a peroxygen bleach compound is not a bleach activator;

- therefore, the original documents of the application disclosed that the class of bleach activators (f) was a preferred component which could be used in any composition of the invention.

As regards the applicability of decision G 1/93 to the present case, the Appellants admitted during oral proceedings that a bleach activator would influence the stabilization of the peroxygen bleach.

VIII. The Appellants request that the decision under appeal be set aside and that the opposition be rejected.

IX. The Respondent requests that the appeal be dismissed.

Reasons for the Decision

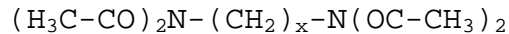
1. *Article 123(2) EPC*

1.1 According to Article 123(2) EPC, a European patent application or a European patent may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed.

In this respect it is the established case law of the Boards of Appeal of the EPO that the relevant question to be decided in assessing whether an amendment adds subject-matter extending beyond the content of the application as filed is whether such an amendment was directly and unambiguously derivable from the application as filed (Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, III.A.2.2 and 2.2.1).

It is undisputed that the original documents of the application disclose a laundry detergent composition comprising the features (a) to (e) of claim 1 as granted, which is reported in point I above.

It thus remains to evaluate whether the combination of features (a) to (e) with feature (f), i.e. a bleach activator which is an N,N,N',N'-tetraacetylated compound of the formula:



wherein x can be 0 or an integer between 1 and 6, and feature (g), i.e. perfume, and the specification of the claimed laundry detergent composition as "non-phosphate built" are directly and unambiguously derivable from the application as filed.

- 1.2 The original description discloses that the peroxygen bleaching agent (feature (e) of claim 1) may be hydrogen peroxide, the addition compounds of hydrogen peroxide such as inorganic perhydrate salts, organic percarboxylates and perureas, organic peroxyacids or mixtures thereof (see page 39, lines 22 to 24 and 27 to 29). Examples of inorganic perhydrate salts include perborate, percarbonate, perphosphate, persulfates, persilicate salts and mixtures thereof (page 40, lines 1 to 3).

Page 45 of the description specifies that **of all the peroxygen bleaching agents described, the perborates and the percarbonates** are preferably combined with bleach activators which lead to the in situ production in aqueous solution of the percarboxylic acid corresponding to the bleach activator (page 45, lines 21 to 24). This passage is followed from a very long list of bleach activators of this kind (page 45, line 26 to page 53, line 19). Bleach activators according to feature (f) of granted claim 1 are disclosed in the passage bridging pages 52 to 53 and are indicated as being particularly preferred.

The Board notes also that the general frame formulation of example 1 (page 83) does not mention any bleach

activator and that the frame formulation of example 2, a heavy-duty detergent powder not containing phosphate (pages 84 and 85) discloses **only specific combinations of percarbonate and perborate with TAED**, one specific bleach activator belonging to the formula of feature (f). Moreover, also the formulations 1 and 2 (pages 89 to 91) disclose only combinations of perborate with TAED.

Since the description discloses and exemplifies specifically that only the perborates and percarbonates are combined with the listed bleach activators, the Board cannot accept the Appellants' argument that it would be directly derivable from this disclosure that the class of bleach activators (f) can be combined also with other peroxygen bleaching agents, which behave similarly to perborates and percarbonates by producing hydrogen peroxide and generating a perhydroxide which reacts with the bleach activator.

Therefore, in the Board's view, this part of the description discloses directly and unambiguously **only a combination of the class of bleach activators (f) with perborates or percarbonates** as peroxygen bleaching agent but not their combination with any possible peroxygen bleach compound (e) encompassed by the wording of claim 1 as granted.

- 1.3 Claim 1 of the original application reports a composition comprising features (a) to (e) but not comprising explicitly features (f) and (g) and not being indicated as "non-phosphate built".

Original claim 6 is drafted as being dependent on claims 1 to 4 and requires that the peroxygen bleach compound (e) is selected from a list of bleach activators including three bleach activators belonging to the class of bleach activators (f) according to claim 1 as granted, for example TAED.

The Appellants argued that claim 6 contained an error since a peroxygen bleach compound is not a bleach activator and that this claim should be understood as requiring the presence of a bleach activator in addition to the peroxygen bleach compound of claim 1.

However, the Board notes that the wording of claim 6 could be equally understood as requiring the listed bleach activators to be part of component (e) contained in an amount of 0.01 to 60% by weight and not to be an additional component as required in claim 1 as granted (see point (I) above).

Moreover, it is equally possible that claim 6 should have been referred back to claim 5 and not to claims 1 to 4 or that claim 6 should have contained the same combination of bleach activators with perborates and percarbonates indicated in the description.

Therefore, even though the original claim 6 contained probably an error, it is not possible to identify with certainty what should have been the correct wording of the claim.

The Board thus finds that the erroneous claim 6 cannot be considered to contain any direct and unambiguous disclosure of the invention which could be helpful for

the evaluation of the compliance of granted claim 1 with Article 123(2) EPC.

Therefore, the Board concludes that the original claims, alike the description, do not contain any direct and unambiguous disclosure of a combination of the class of bleach activators (f) with any type of peroxygen bleach compound (e) encompassed by claim 1 as granted and, therefore, do not contain a direct and unambiguous disclosure of all the features of granted claim 1 in combination.

- 1.4 As regards decision G 1/93 (OJ EPO 1994, 541) invoked by the Opposition Division in support of its decision (see point III above), the Board notes that this decision explicitly allows the addition during examination of undisclosed features which limit the claim without providing a technical contribution to the subject-matter of the claimed invention (see headnote, point 2)

However, as submitted by the Respondent and admitted by the Appellants during oral proceedings, a bleach activator reacts with a peroxygen bleach compound such as perborate or percarbonate to give a peroxycarboxylic acid (see also paragraph 130 of the patent in suit), thereby influencing the stability of the peroxygen bleach compound and the activity of the composition. Therefore, the addition of feature (f), i.e. a specific class of bleach activators, to claim 1 provides a technical contribution to the subject-matter of the claimed invention (see also T 592/99, point 2.5 of the reasons).

The decision G 1/93 thus is not applicable to the present case.

- 1.5 Therefore, already on the grounds mentioned above, the Board finds that claim 1 as granted does not comply with the requirements of Article 123(2) EPC. There is thus no need to investigate whether the other amendments to claim 1 disputed by the Respondent also contravene the requirements of Article 123(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

C. Vodz

P.-P. Bracke