

Internal distribution code:

- (A) [] Publication in OJ
(B) [] To Chairmen and Members
(C) [X] To Chairmen
(D) [] No distribution

D E C I S I O N
of 2 July 2003

Case Number: T 0514/99 - 3.3.6

Application Number: 91200119.5

Publication Number: 0442549

IPC: C11D 3/39

Language of the proceedings: EN

Title of invention:
Aqueous liquid bleach composition

Patentee:
UNILEVER N.V., et al

Opponent:
Henkel Kommanditgesellschaft auf Aktien

Headword:
Aqueous bleach composition/UNILEVER

Relevant legal provisions:
EPC Art. 56

Keyword:
"Technical problem relating to an alleged effect not solved -
insufficient experimental support (points 4.1 to 4.4 of the
Reasons)"
"Inventive step (no) -obvious alternative to prior art
composition"

Decisions cited:
-

Catchword:
-



Case Number: T 0514/99 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 2 July 2003

Appellant: Henkel
(Opponent) Kommanditgesellschaft auf Aktien
TTP / Patentabteilung
D-40191 Düsseldorf (DE)

Representative: -

Respondents: UNILEVER N.V.
(Proprietors of the patent) Weena 455
NL-3013 AL Rotterdam (NL)

and

UNILEVER PLC
Unilever House
Blackfriars
P.O. Box 68
London EC4P 4BQ (GB)

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

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 15 March 1999
rejecting the opposition filed against European
patent No. 0442549 pursuant to Article 102(2)
EPC.

Composition of the Board:

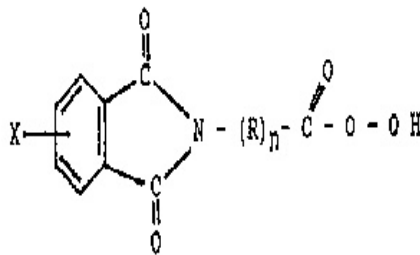
Chairman: P. Krasa
Members: P. Ammendola
C. Rennie-Smith

Summary of Facts and Submissions

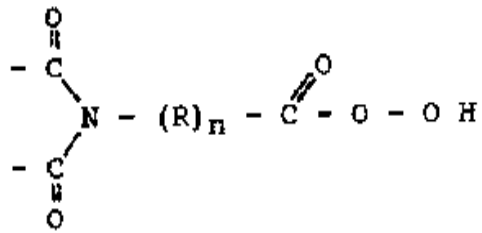
I. This appeal is from the decision of the Opposition Division rejecting the opposition filed against the European Patent No. 0 442 549.

II. The patent as granted comprises 4 claims, the independent claim 1 reading as follows:

"1. An aqueous liquid bleaching composition having a pH of from 1 to 6.5, and comprising from 1 to 40% by weight of a solid, particulate, substantially water-insoluble organic peroxyacid, from 2 to 50% by weight of a surfactant and from 1.5 to 30% by weight of an electrolyte, characterized in that said organic peroxyacid is an imidoperoxy-carboxylic acid having the formula:



wherein X is H, alkyl chain, a halogen, a carboxyl group in any position in the aromatic ring, or the same peroxy-carboxylic acid group



in symmetrical position to the first peroxyacid group on the aromatic ring;

R is a straight or branched chain lower alkylene having 1-4 carbon atoms, preferably -CH₂-; and n is an integer from 1-12, preferably from 3-8; characterized in that the composition further comprises hydrogen peroxide in an amount of from 2 to 10% by weight."

Claims 2 to 4 are dependent claims and define specific embodiments of the subject-matter of claim 1.

III. The Appellant (Opponent) had filed a notice of opposition based exclusively on lack of inventive step and cited *inter alia* the following documents:

Document (3): EP-A-0 349 940

Document (6): EP-A-0 337 516

During the opposition proceedings the Respondents (Patent Proprietors) had filed with the letter dated 1 February 1999 an "Annex II" reporting *inter alia* the results of a stability test carried upon "Composition A" according to the granted claims and comprising phthaloylamino peroxy caproic acid (herein "PAP") .

IV. In its decision the Opposition Division had considered the statement at page 3, lines 39 to 43 of the patent in suit, which reads "*It has now been found that imidoperoxy-carboxylic acids of formula (I) above when presented as an aqueous suspension comprising a surfactant and electrolyte as hereinbefore defined at a pH within the range of 1-6.5, preferably from 2-5, are not only extremely stable both physically and chemically, but also show very effective bleaching and disinfecting properties already at low temperatures e.g. from ambient to about 40 C, as compared to similar formulations based on DPDA as the peroxyacid.*", and concluded that, in the absence of evidence contrary to such statement, the composition of the granted claims have to be considered as achieving superior chemical and physical stability and bleaching performance in comparison to similar prior art compositions comprising 1,12-diperoxy dodecanedioic acid (herein DPDA), such as those disclosed e.g. in Document (6).

V. The Appellant appealed against this decision presenting in writing and orally *inter alia* the following arguments.

It considered that the Opposition Division had correctly identified the most relevant prior art as the bleach compositions differing from those of the patent in suit only in that they are based on DPDA, such as those disclosed e.g. in Document (6).

Though denying any obligation to do so, the Appellant filed with the grounds of appeal additional experimental data in which the stability after 49 days

of storage of two comparative examples (V1 and V2) was found to be 35,8% and 46,7% higher than that observed in the above mentioned Annex II for Composition (A). In particular, the chemical composition of V1 and V2 differed from that of Composition A only in that instead of phthaloylamino peroxy caproic acid (herein "PAP"), they contained respectively the **corresponding molar amount of DPDA** or the **amount of DPDA corresponding to the same content of active oxygen**. The Appellant concluded that the composition of the patent in suit actually had worse stability properties than both the two most similar compositions comprising DPDA as solid peroxy acid.

The Appellant thus maintained that the substitution of the DPDA by PAP in the prior art compositions of e.g. Document (6) did not credibly result in the improved properties merely alleged at page 3, lines 39 to 43 of the patent in suit without supporting experimental evidence.

It concluded that the only technical problem credibly solved by the compositions of the patent in suit vis-à-vis those of the prior art was that of providing an alternative thereto.

Since Document (3) disclosed that imidoperoxy-carboxylic acids such as PAP are suitable as stable and effective bleaching compounds in liquid or solid bleach compositions, the Appellant concluded that it was obvious for the person skilled in the art to solve this technical problem by using in the compositions of Document (6) PAP instead of DPDA, thereby arriving at the subject-matter claimed in the patent in suit.

VI. The Respondents refuted orally and in writing the Appellant's objections, maintaining *inter alia* that the closest state of the art was disclosed in Document (6).

They also argued initially that the experimental evidence provided by the Appellant with the grounds of appeal confirmed that the claimed bleach compositions had improved stability vis-à-vis such prior art. However, at the oral proceedings before the Board it turned out that this reasoning was based on a misunderstanding of stability values found in the comparative examples V1 and V2. The Respondents then attributed the indisputably superior stability of examples V1 and V2 to the fact that the chemical environment in these compositions is optimised for maximizing the DPDA stability, as is evident from the teachings of Document (6), and underlined that the patent in suit also disclosed that the compositions of the invention had an improved bleaching performance.

VII. The Appellant requested that the decision under appeal be set aside and the European patent No. 0 442 549 be revoked.

The Respondents requested that the appeal be dismissed and the patent be maintained.

VIII. At the end of the oral proceedings, which took place before the Board on 2 July 2003, the Chairman announced the decision of the Board.

Reasons for the Decision

1. Claim 1 as granted defines an aqueous bleach composition comprising solid imidoperoxy-carboxylic acid, hydrogen peroxide, surfactant and electrolyte.
2. The technical problem addressed by the claimed invention is defined at page 2, lines 45 to 50 as that of providing an aqueous suspension of a solid, substantially water-insoluble organic peroxy acid (herein OPA) with improved stability and performance. The corresponding statement at page 3, lines 39 to 43 (quoted at point IV of the Facts and Submissions) specifies that the claimed compositions have not only extreme physical and chemical stability but also show very effective bleaching properties as compared to corresponding DPDA-comprising compositions.
3. The Board notes that Document (6) discloses (see claim 1) acidic aqueous bleach suspensions of solid water-insoluble OPAs and which comprise surfactant, electrolyte and hydrogen peroxide. The preferred OPA used in the examples of this citation is DPDA.

Since this state of the art is that identified in the statement at page 3, lines 39 to 43 of the patent in suit and since Document (6) addresses the technical problem of providing aqueous bleach suspensions of OPA with excellent chemical and physical stability (see page 2, lines 23 to 24), the Board sees no reason to deviate from the decision of the Opposition Division (see point 2.2 of the decision) that this citation discloses the state of the art relevant for the assessment of inventive step. Since both parties also

agreed in this regard, no further reasons need to be given.

4. *Technical problem solved by the claimed bleach composition*

4.1 The Respondents initially maintained that the technical problem solved by the claimed composition in comparison with the DPDA-comprising compositions of this prior art, was that of achieving improved stability.

During the oral proceedings however the Respondents - after having understood that the stability of the comparative examples V1 and V2 provided by the Appellant with the grounds of appeal was respectively 35,8% and 46,7% **higher** than that of the claimed Composition (A) - argued that:

(a) the superior stability values of these comparative examples were to be attributed to the fact that they provided the environment most favourable to the stability of DPDA (as indicated in Document (6)),

and

(b) that the claimed compositions also had an improved bleaching performance vis-à-vis this prior art.

4.2 With respect to point "(a)" the Board observes that the chemical composition of the comparative tests filed by the Appellant had been evidently dictated by the necessity of simulating therein the same OPA environment of the Respondents' Composition (A) (see

above, point III of the Facts and Submissions), in order to obtain DPDA-based compositions clearly comparable thereto. Therefore, the OPA's environment in these comparative examples was the same freely chosen by the Respondents to demonstrate the allegedly improved stability of the compositions of the patent in suit.

Nor have the Respondents provided any evidence demonstrating that the stability of the claimed bleach composition was superior in other environments.

Thus, the Board finds that the comparative examples filed by the Appellant with the grounds of appeal credibly demonstrate that the claimed compositions do not achieve an improved stability vis-à-vis the corresponding DPDA-based compositions.

- 4.3 With respect to the point "(b)" above, the Board observes that the only element supporting the allegation that the claimed compositions achieved improved properties vis-à-vis the DPDA-based compositions of Document (6) is the statement at page 3, lines 39 to 43 of the patent in suit (quoted above at point IV of the Facts and Submissions).

The Board has noted that, at least in principle, it might be disputed whether this vaguely worded statement discloses that the composition of the patent in suit was **more stable and better performing** than the DPDA-based prior art or simply **similarly stable but better performing**. However, the evidence provided by the Appellant clearly contradicts both possible meanings of this statement, since compositions having **worse**

stability than the prior art composition identified in the patent in suit cannot possibly be considered "...*extremely stable.....chemically..*".

Therefore, the evidence provided by the Appellant casts severe doubts on the credibility of such statement.

- 4.4 The Board thus concludes that in view of the evidence provided by the Appellant, the claimed composition did not credibly solve the problem addressed in the patent in suit vis-à-vis the relevant prior art, i.e. of rendering available aqueous bleach suspensions of OPA with **improved** properties (see point 2 above).

Hence the Board identifies the technical problem solved by the compositions according to claim 1 of the patent in suit as granted vis-à-vis the prior art compositions according to Document (6) as that of **providing further aqueous suspensions of organic peroxide acids suitable as bleach compositions**, i.e. an alternative to these prior art DPDA-based formulations.

5. The Board finds that the notional person skilled in the art of detergents, faced with the problem of providing an alternative to the prior art compositions of Document (6), would clearly consider the fact that this citation explicitly indicates the applicability in general of any solid water-insoluble OPA (see e.g. claim 1 and the very broad formula definition in the paragraph bridging pages 2 and 3).

Therefore, it was obvious for the skilled person to solve the posed technical problem by replacing in this prior art the OPAs explicitly specified therein with any other of compounds known to be suitable for bleaching.

Since Document (3) discloses that imidoperoxy-carboxylic acids such as PAP are water insoluble solid OPAs suitable for solid or liquid bleaching compositions in general (see claim 1 in combination with page 5, lines 20 to 26 and in particular examples 2b and 7b in combination with e.g. page 9, lines 39 to 41 and the table in example 15 on page 11), it required no inventive activity to solve the existing technical problem by substituting in the compositions of Document (6) the preferred OPA disclosed in that citation with the imidoperoxy-carboxylic acids of Document (3) and, therefore, to arrive at the subject-matter of claim 1 of the patent in suit.

6. The Board therefore comes to the conclusion that granted claim 1 is not based on an inventive step and, thus, that the patent as granted 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 European patent No. 0 442 549 is revoked.

The Registrar:

The Chairman:

G. Rauh

P. Krasa