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**Datasheet for the decision
of 29 July 2009**

Case Number: T 1656/07 - 3.3.06

Application Number: 99870013.2

Publication Number: 1024188

IPC: C11D 3/395

Language of the proceedings: EN

Title of invention:

Bleaching composition comprising substantially linear nonionic surfactants

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Henkel AG & Co. KGaA

Headword:

Substantially linear nonionic surfactants/PROCTER & GAMBLE

Relevant legal provisions:

EPC Art. 56, 108

Relevant legal provisions (EPC 1973):

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Keyword:

"Admissibility of the appeal (yes)"

"Inventive step (no): existence of a new technical effect
undisclosed in the original application not proven -
comparison not with the closest prior art"

Decisions cited:

-

Catchword:

-



Case Number: T 1656/07 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 29 July 2009

Appellant:
(Patent Proprietor)

The Procter & Gamble Company
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Representative:

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NV Procter & Gamble Services SA
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Respondent:
(Opponent)

Henkel AG & Co. KGaA
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Representative:

-

Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 31 July 2007
revoking European patent No. 1024188 pursuant
to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent no. 1 024 188 concerning a liquid aqueous bleaching composition.

II. In its notice of opposition the Opponent sought revocation of the patent on the grounds of Article 100(a) EPC, *inter alia* because of lack of an inventive step of the claimed subject-matter.

The Opponent referred during the opposition proceedings *inter alia* to the following document:

(2): WO-95/28470.

III. As regards the then pending set of claims the Opposition Division found in its decision that

- the comparative tests of 22 December 2003, submitted during the examination proceedings, showed that the technical problem referred to in the patent in suit had already been solved by means of a composition comprising a bleaching agent and the specific linear nonionic surfactant of claim 1;

- other technical effects due to the additional presence of the specific sulphonated anionic surfactant of claim 1 had not been demonstrated;

- therefore, any alleged advantage invoked by the Patent Proprietor with regard to the presence of such

sulphonated anionic surfactants could not be considered in the evaluation of inventive step;

- document (2) disclosed in its examples aqueous bleaching compositions differing from the claimed subject-matter only insofar as they did not comprise the specific sulphonated surfactant of claim 1; however, the description of this document mentioned alkyl benzene sulphonate and alkyl sulphonate as suitable additional ingredients of the compositions disclosed therein;

- therefore, the skilled person would have arrived at the claimed subject-matter by following the teaching of document (2);

-the claimed subject-matter thus lacked an inventive step.

IV. An appeal was filed against this decision by the Patent Proprietor (Appellant).

The Appellant submitted with the statement of the grounds of appeal an experimental report and an amended set of 25 claims to be considered as main request.

Oral proceedings were held before the Board on 29 July 2009.

During oral proceedings the Appellant submitted an auxiliary request consisting of only one claim.

V. The independent claims 1 and 25 according to the main request read as follows:

"1. A liquid aqueous bleaching composition comprising a bleach, a sulphonated anionic surfactant, and a substantially linear nonionic surfactant, whereby said substantially linear nonionic surfactant has the general formula : $R-(A)_x-(B)_y-(C)_z-O-R_1$ wherein : R is an even numbered C_6 to C_{22} alkyl chain or a mixture thereof, containing at least 90% linear alkyl chains; A is an ethoxy unit; B is a butoxy unit; C is a propoxy unit; x, y and z are independent integers of from 0 to 20; the sum of $x+y+z$ is at least 1; and R_1 is H, a C_6 to C_{22} alkyl chain or a C_6 to C_{28} alkyl benzene chain wherein the sulphonated anionic surfactant is selected from the group consisting of alkyl sulphonates, alkyl aryl sulphonates, naphthalene sulphonates, C_6 - C_{20} alkyl alkoxyated linear or branched diphenyl oxide disulphonates, or mixtures thereof."

"25. The use of a sulphonated anionic surfactant and a substantially linear nonionic surfactant having the general formula : $R-(A)_x-(B)_y-(C)_z-O-R_1$ wherein : R is an even numbered C_6 to C_{22} alkyl chain or a mixture thereof, containing at least 90% linear alkyl chains; A is an ethoxy unit; B is a butoxy unit; C is a propoxy unit; x, y and z are independent integers of from 0 to 20; the sum of $x+y+z$ is at least 1; and R_1 is H, a C_6 to C_{22} alkyl chain or a C_6 to C_{28} alkyl benzene chain; in an aqueous fabric bleaching composition comprising a bleach to treat a fabric whereby stain removal and/or bleaching benefits are provided, wherein said sulphonated anionic surfactant is selected from the group consisting of alkyl sulphonates, alkyl aryl sulphonates, naphthalene sulphonates, C_6 - C_{20} alkyl

alkoxylated linear or branched diphenyl oxide disulphonates, or mixtures thereof."

Dependent claims 2 to 19 relate to particular embodiments of the bleaching composition of claim 1; claims 20 to 24 relate to a process of bleaching fabrics by using such a composition.

The wording of the single claim according to the auxiliary request is identical to that of claim 25 according to the main request.

VI. The Appellant submitted in writing and orally *inter alia* that

- the claims complied with the requirements of Article 123(2) EPC;

- the invention concerned the provision of a bleaching composition having excellent bleaching performance and an overall improved stain removal performance over a wide range of stains, especially when applied to fabrics;

- as credibly shown in the experimental data II submitted with the statement of the grounds of appeal, a bleaching composition containing the combination of a linear nonionic surfactant according to claim 1 with an alkyl aryl sulphonate anionic surfactant had a better stain removal performance than a similar composition containing as anionic surfactant an alkyl ethoxy sulphate as used in document (2); a similar performance had to be expected from the other types of sulphonated anionic surfactants encompassed by the wording of

claim 1 and from compositions containing different concentrations of surfactants;

- moreover, the combination of linear nonionic surfactants and specific sulphonated anionic surfactants of claim 1 brought about a synergistic effect, as shown in the experimental data I submitted with the statement of the grounds of appeal;

- document (2), which could be considered to represent the starting point for the evaluation of inventive step, did not deal with the improvement of the stain removal and of the bleaching performance on fabrics; therefore, the skilled person, starting from the teaching of document (2), would not have found any motivation to use one of the sulphonated anionic surfactants selected in claim 1 instead of the alkyl ether sulphate, which was an essential component of the compositions of this document, in order to solve the technical problem underlying the invention;

- therefore, the claimed subject-matter involved an inventive step.

VII. The Respondent submitted in writing and orally *inter alia* that

- the appeal was not admissible since the discussion of the reasoning of the decision submitted by the Appellant with its statement of the grounds of appeal was insufficient;

- claims 1 and 25 did not comply with the requirements of Article 123(2) EPC;

- document (2), representing the closest prior art, concerned bleaching compositions for application to both hard surfaces and textiles; therefore, it related to the same technical field of application as the invention;

- the comparative tests of 22 December 2003, submitted by the Appellant during the examination proceedings, showed that an improved bleaching and stain removal performance had already been obtained by means of a bleaching composition not comprising an anionic surfactant but containing the specific linear nonionic surfactant of claim 1, which nonionic surfactant was also used in the compositions of document (2);

- moreover, the experimental evidence submitted by the Appellant with the statement of the grounds of appeal did not contain a comparison with compositions in accordance with the teaching of document (2); therefore, an improvement of the performance of the compositions disclosed in that document had not been made credible;

- furthermore, the existence of a synergistic effect due to the combination of the specific sulphonate anionic surfactants and linear nonionic surfactants of claim 1 had not been made credible too;

- therefore, the technical problem underlying the invention concerned only the provision of an alternative bleaching composition;

- since document (2) disclosed the possibility of adding sulphonated anionic surfactants as claimed in

the patent in suit to the compositions disclosed therein, it was obvious for the skilled person to try also such surfactants in a composition as disclosed in that document;

- therefore, the claimed subject-matter did not amount to an inventive step.

VIII. The Appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of claims 1 to 25 submitted with the grounds of appeal (main request) or on the basis of the single claim according to the auxiliary request submitted during oral proceedings.

IX. The Respondent requests that the appeal be rejected as inadmissible or that the appeal be dismissed.

Reasons for the Decision

1. Admissibility of the appeal.

According to the Respondent the appeal is not admissible under Article 108, third sentence, EPC since the statement of the grounds of appeal does not contain a sufficient discussion of the reasoning of the decision of the department of first instance.

The Board finds that the statement of the grounds of appeal deals with all the documents cited in the decision of the department of first instance and explains why the claimed subject-matter has to be considered inventive over the cited prior art. Moreover,

it refers to the finding in this decision that the presence of a surprising synergistic effect or of an additional technical effect had not been proven and it tries to overcome this deficiency by introducing new experimental data.

Therefore, the purpose of the statement of the grounds of appeal is clearly that of contesting with facts and arguments the reasoning of the decision under appeal which led to the revocation of the patent.

Since the statement of the grounds of appeal thus specifies the legal and factual reasons on which the case for setting aside the decision is based, the Board concludes that the appeal is admissible.

2. *Main request*

2.1 Articles 123 (2) and (3) EPC; Novelty

The Board is convinced that the claims according to the main request comply with the requirements of Articles 123(2) and (3) EPC and are novel over the cited prior art.

Since the appeal fails on other grounds further details are unnecessary.

2.2 Inventive step

2.2.1 The invention of claim 1 relates to a bleaching composition, which can be used to bleach various surfaces including, but not limited to, fabrics, clothes, carpets and the like as well as hard-surfaces

like walls, tiles, floors, glass, bathrooms surfaces, kitchen surfaces, toilet bowls and dishes (paragraph 1 of the patent in suit).

As explained in the description of the patent in suit, bleach-containing compositions for bleaching various surfaces such as fabrics were well known in the art. Such compositions comprise often a surfactant, such as a nonionic surfactant, or a surfactant system in addition to the bleach in order to provide additional soil removal.

However, these compositions show some limitations as to their stain removal performance and/or bleaching performance (see paragraphs 2 and 4 to 6).

The technical problem underlying the invention thus is formulated in the patent in suit as the provision of a bleaching composition showing an overall improved stain removal performance on a wide range of stains while delivering excellent bleaching performance (paragraph 7).

2.2.2 Both parties and the opposition division have considered document (2) as the most suitable starting point for the evaluation of inventive step.

Document (2) relates to bleaching compositions which can be applied to hard surfaces as well as to fabrics, i.e. to the same technical fields of application of the invention (see page 7, last five lines to page 8, first 5 lines). Since these known compositions contain a surfactant system, they have bleaching as well as soil removal performance (see paragraphs 3 and 5 of the patent in suit). Moreover, they comprise a linear

nonionic surfactant of the type used in the patent in suit and thus are similar to the compositions claimed in the patent in suit (see page 8, lines 7 to 13 of document (2)).

Therefore, also the Board takes document (2) as the most suitable starting point for the evaluation of inventive step.

- 2.2.3 According to the established jurisprudence of the Boards of Appeal of the EPO, when the Patent Proprietor tries to make credible a new technical effect which is not disclosed in the original documents of the application, it carries also the burden of proof. Moreover, if it submits for this purpose a comparison with regard to the closest prior art, the nature of the comparison must be such that said effect is convincingly shown to have origin in the distinguishing features of the invention (see Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, I.D.9.8).

It is undisputed that the originally filed description of the patent in suit did not contain any teaching that the sulphonated anionic surfactants of claim 1 were responsible for any unexpected technical effect, the improved performance being considered then to be due to the presence of the linear nonionic surfactant of claim 1 (see paragraph 9 of the published originally filed application), which nonionic surfactants are indisputably used also in the compositions of document (2).

As regards the alleged technical problem underlying the invention, i.e. the provision of a bleaching

composition showing an overall improved stain removal performance on a wide range of stains while delivering excellent bleaching performance, the Board remarks that the only technical difference distinguishing the claimed subject-matter from the compositions of document (2) is the presence of the specific sulphonated anionic surfactant of claim 1. This fact has not been disputed by the Appellant.

Therefore, the solution of the alleged technical problem underlying the invention relies in the present case on a technical effect brought about by the sulphonated anionic surfactants, which effect was undisclosed in the original documents of the application.

The Appellant submitted with the statement of the grounds of appeal an experimental report containing an alleged comparison with the compositions of the prior art. It thus should be evaluated if the Appellant has succeeded in demonstrating that the alleged technical advantage has been realized and that is due to the use of the selected classes of sulphonate surfactants.

- 2.2.4 The Appellant's experimental report contains a comparison between a bleaching composition according to the invention comprising 10% by weight of a linear nonionic surfactant according to claim 1 and 5% by weight of an alkyl aryl sulphonate anionic surfactant (formulation E) and a similar composition having as anionic surfactant an alkyl ether sulphate instead of the sulphonate (formulation F), the latter composition being allegedly representative for a composition

according to the teaching of document (2) (see point 3.2 of the experimental report).

The Board remarks that the tested formulation F does not correspond to the composition reported on page 8 of document (2), which is a typical composition of that invention, since the latter composition contains only 2% by weight of the alkyl ether sulphate and 0.7% by weight of the nonionic surfactant. Moreover, document (2) requires in its broadest embodiment a concentration of alkyl ether sulphate between 1 and 2.5% by weight and a concentration of nonionic surfactant between 0.4 and 1% by weight. Therefore, not only the concentrations of nonionic and anionic surfactants required in document (2) are far away from those used in the comparative tests of the Appellant's experimental report but document (2) requires also that the concentration of the nonionic surfactant is not greater than that of the anionic surfactant. To the contrary, in the submitted comparative tests the concentration of nonionic surfactant is the double of that of anionic surfactant.

Therefore, the Board concludes that already on these grounds this comparison contained in the Appellant's experimental report cannot be considered to be one with a composition as disclosed in document (2); therefore, this comparison is not apt to show any possible technical improvement over the compositions of the closest prior art.

The Appellant's experimental report contains further a comparison between a composition according to claim 1 containing 10% by weight of a linear nonionic

surfactant and 7% by weight of an alkyl aryl sulphonate anionic surfactant (formulation D) with a composition containing 17% by weight of the nonionic surfactant and no anionic surfactant (formulation C) and with one containing only 17% by weight of alkyl aryl sulphonate but no nonionic surfactant (formulation B) (see point 3.1 of the experimental report). Therefore, also these tests do not contain any comparison with a composition according to document (2).

In the absence of a proof of any alleged technical improvement in bleaching or stain removal performance over the compositions of document (2), the technical problem underlying the invention can only be defined in the Board's view as the provision of an alternative bleaching composition having a bleaching and stain removal performance similar to that of a composition according to the teaching of document (2).

The Board has no reason to contest that a composition according to claim 1 has solved this technical problem.

2.2.5 It is undisputed that document (2) discloses a bleaching composition differing from the subject-matter of claim 1 according to the main request only insofar as it does not comprise the sulphonated anionic surfactant of that claim.

Moreover, as already explained above (point 2.2.2), document (2) relates to bleaching compositions which can be applied to fabrics and, by containing a bleaching agent and a surfactant system, have bleaching as well as soil removal performance.

Document (2) teaches also that additional peroxide stable surfactants such as alkyl sulphonate or alkyl benzene sulphonate (an alkyl aryl sulphonate) can be added to the compositions at an amount of up to 10% by weight of the total surfactant (see page 6, lines 16 to 23).

Therefore, it would have been obvious for the skilled person, in the light of this teaching, to try a composition having, for example, the formulation given on page 8 of document (2) with the addition of a suitable amount of such a sulphonate anionic surfactant in order to obtain an alternative bleaching composition having similar characteristics including similar bleaching and soil removal performance.

The Board concludes that the subject-matter of claim 1 does not amount to an inventive step.

3. *Auxiliary request*

3.1 Inventive step

3.1.1 The wording of the single claim according to the auxiliary request is identical to that of claim 25 according to the main request. This claim relates to the use of a specific sulphonated anionic surfactant and a substantially linear nonionic surfactant of the same types as in claim 1 according to the main request in an aqueous fabric bleaching composition comprising a bleach to treat a fabric whereby stain removal and/or bleaching benefits are provided.

As already explained above (point 2.2.2), the bleaching compositions of document (2), by containing a bleach and a surfactant system, have bleaching as well as soil removal performance.

Moreover, it is undisputed that document (2) teaches that the compositions disclosed therein can be used for the pre-treatment of fabrics (see page 8, lines 3 to 5).

Therefore, similarly to the reasons put forward above (point 2.2.5), it would have been obvious for the skilled person, in the light of the teaching of document (2), to try in the pre-treatment of fabrics the formulation given on page 8 of document (2) with the addition of a suitable amount of an alkyl sulphonate or alkyl benzene sulphonate (an alkyl aryl sulphonate) with the expectation of a similar bleaching and soil removal performance.

The Board concludes that the subject-matter of the single claim according to the auxiliary request does not amount to an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Rauh

P.-P. Bracke