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**Datasheet for the decision  
of 12 March 2008**

**Case Number:** T 0738/06 - 3.3.06

**Application Number:** 99909160.6

**Publication Number:** 0988362

**IPC:** C11D 3/00

**Language of the proceedings:** EN

**Title of invention:**

Carpet cleaning compositions and method for cleaning carpets

**Patentee:**

THE PROCTER & GAMBLE COMPANY

**Opponents:**

Reckitt Benckiser (UK) Limited  
HENKEL KGaA

**Headword:**

Carpet colour safety/PROCTER & GAMBLE

**Relevant legal provisions:**

RPBA Art. 13(1)

**Relevant legal provisions (EPC 1973):**

EPC Art. 54(1)(2), 56, 107

**Keyword:**

"Admissibility of the appeal of Appellants 01 (yes)"

"Novelty (yes)"

"Inventive step (yes): common general knowledge of known experimentally proved physical law not sufficient for predicting technical advantage achieved by means of claimed invention"

**Decisions cited:**

-

**Catchword:**

Points 5.4 to 5.7 of the reasons for the decision



Case Number: T 0738/06 - 3.3.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.06  
of 12 March 2008

**Appellants:**  
(Opponent 01)

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**Representative:**

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(Opponent 02)

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**Representative:**

Stevermann, Birgit  
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**Respondent:**  
(Patent Proprietor)

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**Representative:**

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**Decision under appeal:** Decision of the Opposition Division of the European Patent Office posted 27 April 2006 rejecting the oppositions filed against European patent No. 0988362 pursuant to Article 102(2) EPC.

**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 reject the oppositions against the European patent no. 0 988 362, concerning a carpet cleaning composition and a method for cleaning carpets.

Claim 1 of the patent as granted reads as follows:

"1. A liquid composition suitable for cleaning and sanitising a carpet, comprising a peroxygen bleach, said composition being packaged in a container adapted to deliver the composition onto the carpet in the form of a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed (expressed in volume units) has a droplet diameter (mean diameter  $D(v,0.9)$ ) of less than 750  $\mu\text{m}$ ."

Claims 2 to 12 relate to particular embodiments of the claimed composition; claims 13 and 14 to a method of cleaning and sanitising a carpet by using such a liquid composition; claim 15 to specific embodiments of the method and/or composition previously claimed; and claim 16 to the use of such a liquid composition for cleaning and sanitising a carpet.

II. In their notices of opposition the Opponents 01 and 02, referring *inter alia* to documents

- (1): EP-A-0751213;
- (2): WO-A-96/15308;
- (3): WO-A-97/11785;
- (4): EP-A-0629694;

(7): EP-B-0776966 corresponding to EP-A-0776966 (7a);  
and

(8): Mr. Mazzucato's Declaration of 01.09.2003,

sought revocation of the patent *inter alia* on the grounds of Article 100(a) EPC, because of lack of novelty and inventive step of the claimed subject-matter.

III. In its decision, the Opposition Division found *inter alia* that

- documents (2), (3) and (4) disclosed a method of cleaning carpets by dispensing a liquid composition comprising a peroxygen bleach as a spray of droplets onto a carpet;

- however, it had not been convincingly shown that any of documents (2) to (4) taught the use of a spraying device which would provide necessarily a spray of droplets having a particle size distribution wherein 90% by volume of the droplets has a diameter of less than 750  $\mu\text{m}$ ; or that it was common general knowledge at the priority date of the patent in suit that an aerosol can, one of the possible spraying devices described in document (2), provides necessarily the particle size distribution required by the patent in suit;

-the claimed subject-matter thus was novel over the cited documents.

As regards inventive step the Opposition division submitted that:

- document (4) represented the closest prior art for the purpose of evaluating inventive step of the claimed subject-matter;

- as shown in a comparative test submitted by the Applicant during examination with the letter of 06 June 2001, a composition provided as a spray of droplets having a particle size distribution according to the patent in suit provided an improved colour safety over a composition according to the general teaching of document (4), provided as a spray of droplets having a larger particle size outside the range required by the claims of the patent in suit;

- therefore, the invention had convincingly solved the technical problem of providing a carpet cleaning composition capable of providing a satisfactory soil removal and improved carpet colour safety;

- however, it had not been convincingly proved that the skilled person, by relying on his common general knowledge, would have expected, on the basis of an allegedly known physical law, that a cleaning composition dispensed onto a carpet as a spray of droplets having a reduced particle size would dry faster than a composition dispensed as a spray of droplets of larger particle size and that such a reduction of the drying time would have a beneficial effect on the carpet colour safety;

- therefore, even though spraying devices capable of providing the required droplet size distribution were known from the prior art, as made credible by document (8), the skilled person would have had no incentive for

using this type of spraying device within the teaching of document (4) with the expectation of improving the colour safety of the treated carpet;

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

IV. Appeals were filed against this decision by both Opponents (Appellants 01 and 02).

Appellant 02 cited with its statement of the grounds of appeal the following additional document:

(9): "Physikalische Chemie" by W.J. Moore, 4th edition, 1986, pages 579-580.

Appellant 01 cited with its letter of 14 February 2008 the following documents:

(12): EP-A-0794244;

(13): WO92/14552;

(14): US-A-5068099.

V. Oral proceedings were held before the Board on 12 March 2008.

During oral proceedings the Respondent contested the admissibility of the appeal lodged by Appellant 01 since this appeal appeared to have been lodged on behalf of a party, RECKITT BENCKISER PLC, not having any right to an appeal against the patent in suit.

The representative of Appellant 01 declared that the appeal, lodged in the name of RECKITT BENCKISER, was



intended to have been submitted in the name of Opponent 01, i.e. RECKITT BENCKISER (UK) LIMITED. The indication in the statement of the grounds of appeal that the appeal had been lodged on behalf of RECKITT BENCKISER PLC was a clerical error, since RECKITT BENCKSER PLC was only the representative of Opponent 01 (now Appellant 01), RECKITT BENCKISER (UK) LIMITED.

Following a discussion on the admissibility of claim 13 as granted, the Respondent submitted during oral proceedings an amended set of claims 1 to 14 to be considered as the only request instead of the claims as granted. The admissibility of this request was not contested by the Appellants.

- VI. The sets of claims submitted by the Respondent during oral proceedings differs from the set of claims as granted (see point I above) only insofar as the method claims 13 and 14 have been deleted, claim 15 has been renumbered as claim 13 and redrafted as not relating any longer to a method but only to a composition and claim 16 has been renumbered as claim 14.

Claims 1 to 12 thus are identical to the granted ones.

- VII. Appellant 01 did not maintain during oral proceedings the novelty objection based on the teaching of document (3), raised in the statement of the grounds of appeal and submitted instead that the claimed subject-matter lacked novelty in the light of the teaching of document (12) in combination with the common general knowledge of the skilled person.

In fact, as submitted in writing in the letter of 14 February 2008, document (12) disclosed a carpet cleaning composition containing peroxygen bleach as claimed and dispensed onto a carpet by means of an aerosol can, i.e. a spraying device which was generally known to produce a mist of particles having necessarily a droplet size distribution as claimed. This allegation was supported by the teachings of documents (13) and (14).

Appellant 01 did not submit any arguments as to the reason for the late filing of documents (12) to (14).

The Respondent submitted that documents (12) to (14) had been filed very late, after oral proceedings had already been appointed, and were not more relevant than the documents cited previously in the proceedings. Therefore, they had not be admitted.

VIII. As regards the inventiveness of the claimed subject-matter the Appellants submitted in writing and orally *inter alia* that

- document (4) disclosed a liquid carpet cleaning composition packaged in a spraying device differing from the subject-matter of claim 1 only insofar as it was not specified whether the spraying device was capable of dispensing the liquid composition as a spray of droplets having the required particle size distribution;

- considering a liquid composition dispensed by means of a conventional spraying device according to the teaching of document (4) as the starting point for the

evaluation of inventive step, the only technical problem underlying the invention could be seen in the provision of an alternative similar product for cleaning carpets which showed a better carpet colour safety than the product disclosed in document (4);

- as explained in document (9), according to a known physical law represented by the Kelvin equation, droplets having a smaller particle size have a greater vapour tension and dry faster than droplets having a greater particle size; therefore, a skilled person, by using his common general knowledge of known physical laws, would have expected that a liquid composition dispensed onto a carpet as a spray of smaller droplets would dry faster than a composition dispensed as a spray of droplets of larger particle size and would thus have less time for bleaching and damaging the carpet dyes;

- even though liquid droplets sprayed onto a carpet would not be any longer present as such onto and within the carpet fibres, a similar behaviour had to be expected for the liquid aggregates formed by the droplets within and onto the carpet;

- moreover, as admitted by the Respondent, spraying devices able of dispensing a liquid composition as a spray of droplets having a particle size distribution as required in the patent in suit were known at the priority date of the patent in suit, as made credible by document (8);

- therefore, the skilled person, faced with the technical problem of providing a product for cleaning

carpets which showed a better carpet colour safety than the product disclosed in document (4), would have tried to reduce the particle size of the spray of droplets of the liquid composition dispensed onto a carpet disclosed in that document by using other known spraying devices suitable for that purpose which fell within the general classes of spraying devices listed in document (4);

- moreover, the teaching of document (7a) that sprayed carpet cleaning compositions containing peroxygen bleach should be preferably not be left to dry onto the fabrics for avoiding damage of the carpet colour, illustrated only the known fact that a bleach does not react with the bleachable stains only but with the carpet dyes too; therefore, this teaching cannot be considered to establish a prejudice against using a liquid composition that dries faster;

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

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

- the claimed subject-matter was novel over the cited prior art;

- document (4) did not mention the technical problem solved by means of the claimed invention;

- document (9) reported a known physical law which was not applicable as such to the present case in which the

liquid droplets penetrated the fibres of the carpet and did not exist any longer as such within the carpet; this document, in fact, did not contain any teaching that smaller droplets would dry faster once applied onto a carpet and that a faster drying could bring about an advantage in terms of colour safety;

- therefore, even though spraying devices capable of providing a droplet size distribution as in the patent in suit were known from the prior art, the skilled person would not have had any incentive for using such a spraying device within the teaching of document (4) with the expectation of improving the carpet colour safety;

- to the contrary, the teaching of document (7a) that the drying onto a carpet of a liquid composition containing a peroxygen bleach tends to damage the carpet colour, suggested that a fast drying of the droplets onto the carpet had to be avoided in order to prevent colour damage; therefore, this teaching would have led the skilled person away from selecting a spraying device capable of providing smaller droplets which dried faster onto the carpet for solving the technical problem underlying the invention;

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

X. The Appellants request that the decision under appeal be set aside and that the patent be revoked.

XI. The Respondent requests that the decision under appeal be set aside and that the patent be maintained on the

basis of the claims 1 to 14 submitted during the oral proceedings.

## **Reasons for the Decision**

### *1. Admissibility of the appeal of Appellant 01*

On 09 May 2006 Appellant 01 lodged an appeal worded as follows: "Further to the decision of the Opposition Division dated 27 April 2006 regarding the above European Patent, Reckitt Benckiser, hereby files a Notice of Appeal against this decision."

However, the statement of the grounds of appeal of 25 August 2006 reads: "...pursuant to our letter of 09 May 2006, the Notice of Appeal on behalf of Reckitt Benckiser plc against the decision...".

The indication used in the letter of 25 August 2006 thus might cause uncertainty as to the appellant's identity, i.e. whether the appeal was lodged on behalf of RECKITT BENCKISER PLC, i.e. on behalf of the representative of Opponent 01, or on behalf of the right Opponent 01, RECKITT BENCKISER (UK) LIMITED.

However, the representative stated during oral proceedings that the letter of 25 August 2006 contained a clerical error and that the appeal had to be understood to have been lodged on behalf of the right Opponent 01 RECKITT BENCKISER (UK) LIMITED and not on behalf of RECKITT BENCKISER PLC itself, which was only the representative of Opponent 01 (now Appellant 01).

The Board notes also that the appealed decision indicates the real Opponent 01 and that the grounds of appeal merely confuse this Opponent with its representative, both of them being associated by the identical name but differing in their corporate structure.

Therefore, keeping this in mind, the Board is of the opinion that the facts explained above cannot cause such an uncertainty for the other parties as to the identity of Appellant 01 that the appeal is to be rejected as inadmissible.

The Board thus finds that the appeal of Appellant 01 is admissible.

2. *Admissibility of documents (12) to (14)*

2.1 Appellant 01 submitted for the first time with the letter of 14 February 2008, i.e. less than one month before the oral proceedings already scheduled for the 12 March 2008, a novelty objection based on the content of documents (12), (13) and (14), which had not been cited before, and of common general knowledge.

In its letter and during oral proceedings the Appellant 01 admitted that the submissions had been filed late but requested that documents (12) to (14) be introduced into the proceedings.

No further explanation as to the reason for the late filing of these facts and evidence was submitted during oral proceedings.

2.2 According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion in view *inter alia* of the current state of the proceedings.

In the present case Appellant 01, by citing document (3), had already submitted in the statement of the grounds of appeal its arguments as to the novelty of the claimed subject-matter.

Therefore, the submissions of 14 February 2008 amount to an amendment of Appellant 01's case.

Moreover, these submissions are belated since they have been filed by far after the last Respondent's letter of 13 March 2007 and less than one month before the scheduled oral proceedings.

2.3 Document (12), as submitted by the Respondent during oral proceedings and not contested by Appellant 01, has a description very similar to that of documents (1) and (2) which had already been discussed during the first instance proceedings and during appeal and it thus cannot be considered to be a document more relevant than the documents already in the proceedings.

Furthermore, documents (13) and (14) are patent specifications cited only for supporting the Appellant's allegation as to the common general knowledge of the skilled person at the priority date of the patent in suit. As correctly submitted by the Respondent during oral proceedings, such patent specifications cannot be used as a proof of the common



general knowledge of the skilled person, which is normally represented by encyclopaedias, textbooks, dictionaries and handbooks on the subject in question (see Case Law of the Boards of appeal of the EPO, 5th edition, 2006, I.C.1.5, page 48); therefore, also these documents cannot be considered to be more relevant than the documents already in the proceedings.

Therefore, the Board concludes that the documents (12) to (14) cannot be admitted into the proceedings (Article 13(1) RPBA).

3. *Article 123(2) EPC*

The Board is satisfied that the claims submitted during oral proceedings comply with the requirements of Article 123(2) EPC. Since no objections were raised by the Appellants further details are unnecessary.

4. *Novelty*

Since Appellant 01 has withdrawn during oral proceedings the novelty objection raised in writing on the basis of document (3) (see point VII above) and novelty has been contested during oral proceedings only on the basis of documents (12) to (14), which have not been admitted into the proceedings (see point 2.3 above), the Board has no reason to depart from the finding of the department of first instance that the claimed subject-matter is novel over the cited prior art (see point III above).

5. *Inventive step*

5.1 The subject-matter of claim 1 relates to a liquid composition suitable for cleaning and sanitising a carpet, comprising a peroxygen bleach, packaged in a container adapted to deliver the composition on the carpet in the form of a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed (expressed in volume units) has a droplet diameter of less than 750  $\mu\text{m}$ .

As explained in the description, it was already known to use liquid compositions based on peroxygen bleach for cleaning and sanitising a carpet; however, it had been observed that such compositions may damage the colour of the carpets when applied directly onto them and left to act for prolonged periods of time before evaporating or being mechanically removed (see paragraphs 5 and 6 of the patent in suit).

The technical problem underlying the invention thus was formulated in the description as the provision of a product for improving the colour safety of carpets treated with a liquid composition containing a peroxygen bleach (paragraph 7), which product can be applied to the whole carpet or to localised stained areas, provides overall excellent cleaning and sanitising performance, does not require manual action or rinsing, is safe to all carpet dyes and can be applied without damaging the carpet (see paragraphs 9 to 13).

5.2 Even though documents (1) to (4) have a similar teaching, documents (1) to (3) do not require

necessarily the presence of a peroxygen bleach (see the respective claim 1) and document (3) deals mainly with the provision of a sprayer capable of dispensing a great volume of liquid for treating large or small areas of a soiled carpet independently from the type of composition used (see claim and page 2, lines 24 to 29).

Document (4) relates instead to the cleaning and sanitizing of carpets by means of a liquid composition comprising a peroxygen bleach and dispensed preferably by means of a spraying device, which product can be applied to the whole carpet or to localised stained areas, provides overall excellent cleaning and sanitising performance, does not require manual action or rinsing, is safe to all carpet dyes and can be applied without damaging the carpet (see page 2, lines 32 to 41; page 5, lines 8 to 11, 16 to 18 and 30 to 32; claims 10 and 11).

Therefore, the Board finds that document (4) represents the most suitable starting point for the evaluation of inventive step, as submitted by the Respondent, by Appellant 02 and by the Opposition Division.

The product disclosed in document (4) differs from the subject-matter of claim 1 only insofar as it is not specified whether the used sprayer is one capable of providing a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed has a droplet diameter of less than 750  $\mu\text{m}$ .

5.3 As already explained above, the known product according to the teaching of document (4) can be applied to the

whole carpet or to localised stained areas, provides overall excellent cleaning and sanitising performance, does not require manual action or rinsing, is safe to all carpet dyes and can be applied without damaging the carpet.

Therefore, the Board finds that document (4) already dealt with a similar technical problem as the patent in suit and the technical problem underlying the invention can only be defined as the provision of an alternative product for cleaning and sanitising a carpet having similar properties to that described in document (4) but being capable of providing improved carpet colour safety.

As shown in the comparative test submitted during examination with the letter of 06 June 2001, a carpet cleaning composition according to the patent in suit dispensed as a spray of droplets having the particle size distribution required in claim 1 provides after a 24 hours contact time a very good carpet colour safety which is better than that achieved by means of the same composition dispensed as a spray of droplets of larger particle size not according to claim 1.

Therefore, the technical problem underlying the invention of providing an alternative product for cleaning and sanitising a carpet having similar properties to that described in document (4) but being capable of providing improved carpet colour safety has been convincingly solved by means of a product having the features of claim 1.

5.4 As explained in document (9) with reference to the Kelvin equation, it was a known experimentally proved physical law that the vapour tension of a liquid droplet increases by reducing its radius (see page 579, lines 1 to 14; equation 11.12 and page 580, lines 5 to 8). This means that liquid droplets having a smaller particle size dry faster than droplets having a larger particle size.

This behaviour of liquid droplets belonged to the common general knowledge of the skilled person at the priority date of the patent in suit.

The Board agrees with the Respondent that document (9) does not relate specifically to the behaviour of liquid droplets once they are dispensed onto carpet fibres and that such sprayed liquid droplets, by penetrating the carpet fibres and contacting the soil, will no longer have their original form and will possibly aggregate with each other at least to a certain extent.

However, as submitted by Appellant 02 during oral proceedings, the skilled person would have expected the aggregates formed from smaller droplets dispensed onto a carpet to be smaller than aggregates formed by larger droplets.

Moreover, in the Board's judgement, a skilled person, aware of the physical laws and thus also of the known behaviour of liquid droplets explained in document (9), would have expected this behaviour to be maintained at least to a certain extent in the aggregates formed from such droplets.

Therefore, he would have expected that smaller aggregates would tend to have a greater vapour tension and to dry faster than larger aggregates.

- 5.5 According to the Appellants, since it could be expected that droplets of smaller size dry faster, it could be expected also that the peroxygen bleach would be in contact with the carpet for a shorter time and thus it would have less time for damaging the carpet colour, which fact would result in an improved carpet colour safety.

The Board cannot agree with this argument since the peroxygen bleach would react not only with the carpet dyes but also with the bleachable stains of the soiled carpet and it cannot be foreseen if the possible reaction of the peroxygen bleach contained in the liquid aggregates with the carpet dyes would be faster or slower in smaller or larger liquid aggregates. Moreover, considering that the liquid evaporates during contact with the carpet, the concentration of bleach present in the liquid aggregates formed within and onto the carpet fibres is also not predictable.

Therefore, there is no reason to assume that smaller liquid aggregates containing peroxygen bleach, by drying faster, would cause less damage to the carpet colour than larger aggregates.

Moreover, it is in the Board's view highly surprising that a carpet cleaning composition according to the patent in suit dispensed as a spray of droplets having the particle size distribution required in claim 1 provides **after a 24 hours contact time** a very good

carpet colour safety which is better than that achieved, **by equal contact time**, by means of the same composition dispensed as a spray of droplets of larger particle size not according to claim 1, as shown in the comparative test submitted during examination with the letter of 06 June 2001.

5.6 Furthermore, the prior art appears to suggest that a liquid composition containing peroxygen bleach sprayed onto a carpet should preferably not be left to dry onto the fabric and should be removed before drying for avoiding damage of the carpet colour (see document (7a), page 3, lines 53 to 59).

The Board has no reason to assume that this teaching would have been considered by the skilled person to be wrong, as submitted by the Appellants during oral proceedings, or that it would only illustrate the known behaviour of a peroxygen bleach of reacting both with the bleachable stains and with the carpet dyes.

To the contrary, the Board finds that this teaching is a clear warning that the skilled person would have taken into consideration in spraying liquid compositions containing peroxygen bleach onto a carpet.

For this reason, the Board finds that the teaching of the prior art would have rather not led the skilled person towards using a liquid composition comprising a peroxygen bleach which dries faster onto the carpet.

5.7 Even though, as admitted by the Respondent during appeal and at the oral proceedings, sprayers capable of providing the droplet size required in claim 1 were

known in the prior art and fell under the general classes of sprayers listed in document (4), the Board finds that the skilled person, faced with the technical problem of providing an alternative product for cleaning and sanitising a carpet **having similar properties** to that of document (4) but being capable of providing improved carpet colour safety, would have been led by the teaching of the prior art away from trying a spray of droplets having a smaller droplet size which he would have expected to dry faster onto a carpet and, consequently, not to be suitable for achieving better carpet colour safety by maintaining the cleaning and sanitising properties of the composition.

Moreover, the other cited documents do not contain any teaching which could have led the skilled person to try to reduce the particle size of a liquid carpet cleaning composition dispensed by means of a spraying device with the expectation of increasing the carpet colour safety.

Therefore, in the Board's view, the technical advantage achieved by means of the claimed invention was not foreseeable in the light of the teaching of the prior art.

5.8 The Board thus concludes that the subject-matter of claim 1 involves an inventive step.

The same applies *mutatis mutandis* to all other claims.



**Order**

**For these reasons it is decided that:**

The decision under appeal is set aside.

The patent is maintained on the basis of the set of claims 1 to 14 filed during the oral proceedings of 12 March 2008.

The Registrar:

The Chairman:

C. Vodz

P.-P. Bracke