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Datasheet for the decision of 15 October 2010

Case Number: T 0695/08 - 3.3.06

Application Number: 00986672.4

Publication Number: 1240294

IPC: C11D 3/00

Language of the proceedings: EN

Title of invention:
Process for making a detergent product

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Henkel AG & Co. KGaA

Headword:
Process for making a detergent component/PROCTER

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 56

Keyword:
"Inventive step: no - trivial modification"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0695/08 **-** 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 15 October 2010

Appellant: (Patent Proprietor)
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Respondent: (Opponent)
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Representative:
-

Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 12 February 2008 revoking European patent No. 1240294 pursuant to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: P. Ammendola
U. Tronser

Summary of Facts and Submissions

I. This appeal is from the decision of the Opposition Division to revoke European patent No. 1 240 294 concerning a process for making a detergent composition.

II. The patent as granted contained sixteen claims. Claim 1 thereof reads as follows:

"*1. A process for making a viscous reaction product and making this into a solid component, comprising the steps of:*

a) reacting at least two compounds with one another to form a first active material to form a viscous mixed product which has a viscosity of at least 500cps or even at least 1000cps at 20°C, and mixing this with a second active material that is a perfume mix;

b) mixing the product of step a) with a liquid carrier material,

whereby step b) is followed by

c) mixing the mixture of step b) with a solid granulation agent to form a solid component;

d) optionally forming the solid component of step c) into granules."

Claims 15 and 16 as granted were respectively directed to the granule obtainable by a process according to

claim 1 and the detergent composition comprising that granule.

III. The grant of the European Patent had been opposed on the grounds of lack of inventive step.

The Opponent had cited in the grounds of opposition, *inter alia*, documents

(1) = EP-A-0 971 021

and

(2) = "*Lupasol® Marken - Vorläufige Technische Information - August 1996*" BASF AG, Marketing Spezialfarben.

IV. It the decision under appeal the Opposition Division found, *inter alia*, that:

Similarly to the patent-in-suit, also document (1) addressed the problem of rendering available detergent compositions providing the washed substrates with a long-lasting pleasing fragrance. This citation disclosed in particular a process for the preparation of a solid component for detergent compositions by initially reacting an active (e.g. perfumed) aldehyde or ketone (hereinafter **active reagent**) with a compound carrying one or more amine groups (hereinafter **co-reagent**) to produce a viscous product, and then adding this latter with a liquid carrier and, subsequently, with a solid granulation agent. Hence, the subject-matter of claim 1 differed from this prior art process only in that the viscous product was mixed with a

perfume mix before being added with the liquid carrier and the solid granulation agent.

The benefits of the invention alleged in the patent-in-suit in terms of improved deposition, fabric substantivity and ease of processing had not been demonstrated by experimental comparisons reported in the patent or by subsequently filed experimental proof. Thus, these alleged effects could not be considered when assessing the presence of an inventive step.

The objective technical problem was therefore the provision of an alternative process.

Since a perfume would be nothing else than another liquid carrier suitable for adjusting the viscosity of the viscous product, it was obvious for the skilled person searching for a mere alternative to the prior art, to mix the viscous product disclosed in this citation with a liquid perfume mix before a second liquid carrier was added.

Accordingly, the subject-matter of claim 1 of the patent-in-suit was found to contravene Article 56 EPC 1973.

V. The Patent Proprietor (hereinafter Appellant) lodged an appeal against this decision. It filed with the grounds of appeal an experimental data sheet (hereinafter the comparative data) describing the differences in terms of intensity and type of perfume that had been perceived by a group of panellists on fabrics washed six days before with different detergent compositions. The tested detergent compositions used in the reported

examples contained **either** a solid product obtained by initially mixing the perfume mix, the active reagent and the co-reagent (hereinafter these examples are indicated as similar to invention), **or** a corresponding solid product obtained by initially combining just the active reagent and the co-reagent, followed by the addition of the liquid carrier and of the solid granulation agent, and by afterwards adding (sprayed-on) the perfume mix.

At the oral proceedings held before the Board in the presence of both Parties, the Appellant requested, in case the Board would be inclined to dismiss the appeal only because the granted claims 15 and 16 lacked of an inventive step, to be given the possibility to file an amended set of claims in which these product claims would be deleted.

VI. The arguments presented in writing and orally by the Appellant may be summarised as follows:

The patented process represented a further development of the process disclosed in document (1) also developed by the Appellant. This further development was based on the surprising finding that a perfume mix added into the intermediate viscous product of the prior art process remained "embedded" (without being reacted) within the viscous product. Therefore, the perfume mix was not rinsed out during the wash, but rather deposited more efficiently onto the washed substrates and released afterwards over more prolonged time.

In the Appellant's opinion, the Opposition Division had erred in disregarding such advantages only because there was no experimental evidence supporting them.

The filed comparative data would nevertheless represent an (unnecessary) proof of the advantages of the invention. The Appellant acknowledged that the wording of claim 1 required to produce the viscous product before mixing it with the perfume mix and, thus, that these data contained no example of the patented process. However, the experiments similar to the invention were based on a solid component substantially identical to that produced by the patented process, i.e. a product in which the perfume mix would be present unreacted within the viscous product. Hence, the observed differences were to be attributed to the fact that the perfumed ingredients were "embedded" rather than sprayed-on. In the opinion of the Appellant, the perfume mix could not possibly have reacted with the Lupasol® polyamine used as co-reagent, because this latter would preferably react with the active reagent delta damascone. Indeed, this active ingredient was a ketone and, thus, much more reactive towards Lupasol® then the aldehyde forming most of the perfume mix; moreover the damascone was also present in an amount certainly sufficient to completely react all the amino groups of the co-reagent. The Appellant also pointed to the fact that the amount of ketone compounds present in the perfume mix was very small and, thus, manifestly insufficient to produce the substantial differences in perfume intensity and fragrance reported in the comparative data. Moreover, the Respondent's criticism to the comparative data was only based on unsupported allegations and, hence, was insufficient on

the balance of probabilities to deprive of plausibility the reported experimental results.

Accordingly, the comparative data represented a credible evidence of the superior perfume deposition achieved when the (unreacted) perfume mix was "embedded" within the viscous product already before the addition of the liquid carried and of the solid granulation agent, in comparison to when the same (unreacted) perfume mix was sprayed-on on the already formed solid component

Therefore, the patented process achieved a plausible and proved technical advantage that was not predictable in view of document (1) and, thus, was inventive over the prior art.

VII. The Respondent's arguments may be summarised as follows:

The advantages of the patented process indicated by the Appellant would not be rendered plausible by their mere allegation contained in the patent-in-suit, which was also silent as to the "embedding" mechanism suggested by the Appellant.

No deposition advantage allegedly descending from the presence of unreacted perfume mix could possibly be proved by means of the comparative data, since the more intense perfume after six days observed in the examples similar to the invention was just the predictable consequence of the fact that a major portion of the perfume mix had reacted with the co-reagent and, thus, had been provided with delayed delivery.

The Respondent considered the Appellant's allegation that aldehydes were known to be dramatically less reactive towards amines than ketones, to be generic and in open contradiction with the disclosure of documents (1) and (2) and even of the patent-in-suit. Moreover, the used perfume mix also contained several ketones. Finally, it was well-known that the intensity of perfume perception depended not only on the amount of the perfumed ingredient present but also on the kind of perfumed ingredient; hence, already a minor amount of perfume mix reacted with co-reagent could explain the observed differences in perfume intensity or fragrance.

Therefore, there was no credible evidence on file that the addition of the perfume mix to the intermediate viscous product of the process of document (1) resulted in more efficient perfume deposition in comparison to when the same perfume mix was added at some other stage of the process of document (1).

A skilled person would consider obvious to add a further perfume to the solid component of the prior art providing fragrance to washed substrates and, in doing that, he would certainly prefer to add the additional perfume to the intermediate viscous product, since also this latter was a perfume (albeit with delayed release).

Accordingly, the subject-matter of claim 1 would only represent an obvious alternative to the process of document (1).

VIII. The Appellant requested that the decision under appeal be set aside and the opposition be rejected.

The Respondent requested that the appeal be dismissed.

Reasons for the decision

1. Inventive step (Article 100(a) in combination with Articles 52(1) and (2) and 56 EPC 1973): claim 1

1.1 The Appellant has explicitly confirmed at the oral proceedings before the Board that the wording of step "*a)*" of claim 1 (see above section II of the Facts and Submissions, in particular the passage reading "*to form a first active material to form a viscous mixed product*") can only be interpreted as requiring the initial formation of the product possessing the viscosity indicated in the claim, followed by the addition thereto of the perfume mix. Since this interpretation appears the only reasonable to the Board, claim 1 is found to define a process for making a solid component mandatorily comprising:

step "*a)*" wherein at least two compounds (i.e. those indicated in this decision as active reagent and the co-reagent) are initially reacted to produce a viscous product which is then mixed with a perfume mix;

step "*b)*" wherein the final product of step "*a)*" is mixed with a liquid carrier

and

step "*c)*" wherein the mixture of step "*b)*" is mixed with a solid granulation agent to form the solid component.

1.2 The Board sees no reason to deviate from the findings of the Opposition Division, undisputed by the Parties, that the prior art process disclosed in document (1) represents a suitable starting point for the assessment of inventive step for the patented process. In particular, any of the processes described in paragraphs [0110] to [0125] of this citation appears a suitable starting point.

It is also undisputed that the sole feature characterizing the process of claim 1 vis-à-vis this prior art is the addition of a perfume mix into to the viscous product, before the addition thereto of the liquid carrier and of the solid granulation agent.

1.3 The Appellant has argued that the Opposition Division has erred in disregarding the advantages of the invention indicated in the patent-in-suit simply because these latter were not supported by experimental evidence. In the opinion of the Appellant, the burden of proving that a technical advantage disclosed in the patent-in-suit had not been achieved rested with the Respondent. Therefore, in the absence of any evidence to the contrary, these advantages were to be considered in view of the definition of the technical problem effectively solved.

1.3.1 The Board notes, however, that the sole passage in the patent-in-suit that clearly refers to the advantages possibly descending from the addition of a perfume mix

(indicated in this passage as the "*additional active material*") in the viscous product, is the portion in paragraph [0026] that reads: "*The addition of such additional active material can also help to get the required viscosity. Of course the main advantage is that this active material benefits also from the improved deposition and fabric substantivity and ease of processing.*".

The Board notes further the absence in the remaining patent description of any evidence (e.g. an experimental comparison) or any other clarification of the statements contained in this passage.

Under these circumstances, the Board concludes that the patent-in-suit neither identifies in respect to which (prior art of) reference the achieved level of deposition and delayed release of the perfume mix is to be considered "*improved*", nor clarifies whether this improvement has been experimentally observed or just predicted on the basis of some undisclosed theoretical reasons (cf. the "*Of course*", in the above cited paragraph). Thus, the expressions used e.g. in paragraph [0026] are found too generic to be associated to a technical advantage of the invention also plausibly existing in respect of the prior art identified above.

Hence, the Board concurs with the Opposition Division that the advantages of the invention vaguely alleged in the patent-in-suit cannot be taken into consideration in the identification of the technical problem solved.

1.3.2 Since the patent-in-suit has been found to contain **no** disclosure of a plausible technical advantage produced by the addition of the perfume mix into the viscous product (i.e. by the feature characterizing the claimed subject-matter vis-à-vis the prior art), the Board finds not relevant the Appellant's argument that the burden of proving that a technical advantage disclosed in the patent-in-suit had not been achieved rested with the Respondent.

1.4 The Appellant has also argued that the comparative data filed with the grounds of appeal (see above section V of the Facts and Submissions) would prove the advantage of the invention in terms of superior deposition and, thus, would prove erroneous the conclusion in the decision under appeal that the patented process only represented an alternative to the prior art.

In particular, the Appellant has submitted that the solid component used in the examples similar to the invention (i.e. the component obtained starting from a mixture of the perfume mix together with the active ketone reagent delta damascone and the polymeric amine co-reagent Lupasol®), although **not** having been prepared according to the process of claim 1, contains nonetheless the perfume mix **mixed within** the viscous product (i.e. **distributed unreacted within** the viscous product) and, hence, possess the **same** structure of a corresponding solid component obtained from the patented process. Thus, the comparative data would prove that the solid component obtainable from the patented process results, due to the presence in its interior of the perfume mix mixed (unreacted) within the viscous product, in a more efficient deposition of

the perfume mix onto the washed substrates and, hence, provides these latter with a stronger fragrance after six days, in comparison to when the same (unreacted) perfume mix is instead sprayed-on the exterior of the solid component.

1.4.1 Taking into account the principle that each party bears the burden of proof for the facts it alleges (see Case Law of the BoA of EPO, 6th edition, 2010, VI.H.5.2), the Board finds preliminarily that it is the Appellant that should have provided either experimental evidence or a convincing theoretical explanation, if necessary based on verifiable facts, rendering plausible the Appellant's allegation that solid component used in the examples similar to the invention contains the perfume mix **distributed unreacted within** the viscous product.

1.4.2 The Board notes that the plausibility of this allegation has been disputed by the Respondent by stressing that, similarly to document (1), also the patent-in-suit acknowledges, e.g. at paragraph [0061] or [0076], the suitability of both aldehydes and ketones as active reagents. In addition, aldehydes are also disclosed to be reactive specifically towards Lupasol® in document (2) (see page 5, lines 2 to 4, and page 6, penultimate paragraph). Moreover, the comparative data disclose that the used perfume mix also comprises (in addition to between 50 to 60% of an aldehyde) between 11 to 25% of ketones.

On the basis of these facts, the Respondent has come to the conclusion that in the examples similar to the invention a substantial portion of the perfume mix must have reacted with the co-reagent and, due to this

reaction, must have been provided with delayed release. Hence, the superior perfumes observed after six days on the substrates washed with the detergent compositions similar to that of the invention, would rather be due the delayed release of the **reacted** portion of the perfume mix, rather than to that of the **unreacted** portion thereof.

1.4.3 The Appellant has presented two arguments contrary to this reasoning.

It has argued firstly that in the mixture used for forming the solid component of the examples similar to the invention, no substantial reaction could take place between the Lupasol® and the perfume mix because this latter consisted mostly of an aldehyde and was, thus, much less reactive (towards the polyamine Lupasol®) than the delta damascone ketone also present in that mixture.

Secondly, the differences in fragrance and perfume intensity observed in the comparative data were so relevant that they could not reasonably be attributed to the small amount of ketones in the perfume mix, even if these were arbitrarily assumed to have possibly reacted with the co-reagent.

1.4.4 The Board finds the first argument of the Appellant to be an allegation deprived of any credibility, in the absence of any verifiable fact at least qualitatively confirming that the known difference in reactivity between aldehydes and ketones is **so large** to render plausible that amines contacted with a mixture of the two would in general react with all available ketones

before any substantial reaction with any aldehydes might take place.

The Appellant's second argument implies instead the assumption that remarkable differences in perfume intensity and fragrances - as those perceived by the panellists in the comparative data - **cannot possibly** be produced by minor changes in the composition of the odorous substances, i.e. implies the assumption that the perfume produced by a certain concentration of a perfumed substance can only be appreciably modified by the presence of a **comparable** amount of another substance with a different perfume. However, as observed by the Respondent during the oral proceedings, it is well-known that perfume perception is a complex phenomenon influenced by many factors (e.g. by the kind of odorous substances) other than just the ratio among the absolute concentrations of the odorous substances. Thus, also this argument is found not convincing.

1.4.5 Hence the Board finds it plausible, in the absence of any evidence to the contrary, that in the examples similar to the invention a substantial amount of the perfume mix has reacted with Lupasol®, and that the perfume differences observed six days after the wash are possibly to be attributed to the delayed release of the reacted fraction of perfume mix.

Accordingly, the Board concludes that the Appellant has not succeeded in rendering credible by means of the comparative data that the solid component produced by the patented process and which, therefore, contains an (unreacted) perfume mix mixed within the viscous product produces longer lasting fragrances than a

similar solid component containing instead the perfume mix only sprayed-on.

1.5 Therefore, the Board concurs with the Opposition Division that the feature characterizing the subject-matter of claim 1 vis-à-vis the processes exemplified in document (1) provides no plausible technical advantage and, thus, that the patented process only solves the technical problem of providing an alternative to the prior art.

1.6 The Board notes preliminarily that the solid component formed in the prior art process is explicitly indicated in document (1) to be also obtainable by using (as active reagent) mixtures of perfumed aldehydes and/or ketones (see document (1) paragraphs [0034] and [0049]).

The Board then considers that a person skilled in the art, who is searching for an alternative to the specific processes exemplified in document (1), would have found obvious to arbitrarily select among the evident modifications of this prior art which cannot possibly have any negative influence on the desired properties of the final component, that of adding thereto **a further perfume.** He would also be motivated to incorporate such additional perfume in the **intermediate** viscous product of the prior art processes, because this viscous product is manifestly the ingredient of the solid component already **responsible for the (delayed) perfume-releasing**. Nor is any inventive skills necessary to the skilled person for further arbitrarily selecting the option of using a **mixture** of perfumed substances rather than a single one, in particular since document (1) explicitly

teaches to the skilled person such option. Hence, the skilled person arrives at the subject-matter of claim 1 of the patent-in-suit without exercising any inventive ingenuity.

1.7 Accordingly, the Board concludes that the patented process is just the result of a trivial modification of the prior art that the skilled person may certainly foresee to have no negative influence on the desired properties of the final product.

Hence, the Board finds that the subject-matter of claim 1 of the patent-in-suit is obvious in view of the prior art and, thus, contravenes Article 56 EPC 1973.

2. Since claim 1 of the patent-in-suit is found to contravene the EPC, the Board needs not to consider the request made by the Appellant at the oral proceedings (see above section V of the Facts and Submissions) to be given the possibility of filing an amended set of claims in which **only** the product claims 15 and 16 would be deleted (and thus in which claim 1 would still be as granted).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano P.-P. Bracke