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Datasheet for the decision of 4 July 2016

Case Number: T 0409/14 - 3.3.06

Application Number: 07723661.0

Publication Number: 1984486

IPC: C11D3/50

Language of the proceedings: EN

Title of invention:
LAUNDRY COMPOSITION WITH ENCAPSULATED LIQUID BENEFIT AGENT

Patent Proprietors:
Unilever PLC
Unilever N.V.

Opponent:
Henkel AG & Co. KGaA

Headword:
Encapsulated liquid benefit agent laundry composition/UNILEVER

Relevant legal provisions:
EPC Art. 83, 52(1), 54, 56

Keyword:
Sufficiency of disclosure - undue burden (no)
Novelty - (yes)
Inventive step - main request (yes)

Decisions cited:

Catchword:

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Case Number: T 0409/14 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 4 July 2016

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 57 40589 Düsseldorf (DE)
Representative:	Henkel AG & Co. KGaA CLI Patents Z01 40191 Düsseldorf (DE)
Respondent: (Patent Proprietor 1)	Unilever PLC Unilever House 100 Victoria Embankment London EC4Y 0DY (GB)
Respondent: (Patent Proprietor 2)	Unilever N.V. Weena 455 3013 AL Rotterdam (NL)
Representative:	van Benthum, Wilhelmus A. J. Unilever Patent Group Olivier van Noortlaan 120 3133 AT Vlaardingen (NL)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 17 January 2014 rejecting the opposition filed against European patent No. 1984486 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	L. Li Voti
Members:	E. Bendl
	S. Fernández de Córdoba

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to reject the opposition against the European patent No. 1 984 486.

II. In the appealed decision the opposition division concluded that the subject-matter of the claims as granted was sufficiently disclosed, novel over D1 (WO 2005/059083 A1) and D4 (WO 2006/056093 A1) and involved an inventive step when taking D1 as the closest prior art.

III. The independent claims as granted read as follows:

"*1. A process for making aggregate granules comprising encapsulates of liquid benefit agent anchored to detergent particles, the process comprising the steps of:*

a) providing a powdered and/or granulated laundry composition comprising detergent particles selected from surfactants, fabric softeners and/or detergency builders;
b) preparing a slurry comprising waster [sic]*, optional soluble materials, and encapsulates of liquid benefit agent;*
c) spraying the slurry prepared in step b) onto the laundry composition provided in step a) using a high rate of spray to create droplets larger than 70 micron in order to form aggregate granules having encapsulates of liquid benefit agent anchored to detergent particles."

"*5. A particulate laundry detergent composition including a plurality of aggregate granules*

encapsulates of liquid benefit agent anchored to detergent particles, obtainable by the process as claimed in any one of claims 1 to 4, and characterised in that the percentage of the benefit agent associated with the sieve fraction of 1000 to 1400 µm is greater than 10% of the total of benefit agent associated with sieve fractions 0 to 1400 µm."

"*9. Use of a laundry detergent composition as claimed in claim 6 in a laundry washing process at a concentration of 1 to 10g/l of wash solution, preferably 6 to 8 g/l.*" (Remark: the laundry detergent composition according to claim 6 is a composition according to claim 5, wherein the benefit agent is perfume).

IV. In its statement of grounds of appeal the appellant/ opponent submitted that the claimed invention was not sufficiently disclosed, the claimed subject-matter was not novel over D1 and D4 and/or it did not involve an inventive step when taking D1 as the closest prior art. Moreover, it filed two additional documents, one of them being D6 (EP 0 397 246 A2).

V. With letter of 29 September 2014 the respondents/ proprietors rebutted the objections raised by the appellant, but filed a further set of claims as auxiliary request.

VI. Oral proceedings took place on 4 July 2016. The issues discussed were the subject-matter of the main request with regard to sufficiency of disclosure, novelty in view of D1 and D4 and the inventive step when taking D1 as the closest prior art.

VII. The parties' requests were as follows:

- The appellant requested that the decision under appeal be set aside and the patent be revoked.
- The respondents requested that the appeal be dismissed or, alternatively, that the patent be maintained on the basis of the auxiliary request submitted with letter of 29 September 2014.

VIII. The arguments of the appellant of relevance for the present decision were as follows:

Sufficiency of disclosure

- The feature "high rate of spray" used in claim 1 as granted was not defined in the patent in suit.
- The spray rate used in D1 was, according to the patent in suit, considered to be low; the only example of D1 used a spray rate of 0.8 kg hr^{-1} (13.3 g min^{-1}).
- The examples of the patent in suit used a spray rate of 50 and 100 g min^{-1}.
- Thus, within the broad range between 13.3 and 50 g min^{-1} the skilled person would not know whether it worked within/outside the claimed invention.
- This profound ambiguity resulted in a lack of sufficient disclosure.

Novelty

- The example of D1 showed all features as claimed apart from the "high rate of spray". However, the value disclosed in D1 was only an average value, i.e. whenever somewhat higher spray rates were used novelty of the claimed subject-matter was necessarily destroyed.

- Furthermore the examples of D1 were "non-limiting", which meant that other spray rates were also encompassed.
- Example 5 of D4 destroyed novelty of the claimed subject-matter, because the use of a pipette with an inner diameter of 1 mm necessarily created droplets > 70 µm; the spray rate used for producing such large droplets needed necessarily to be "high".

Inventive step

- D1 was the closest state of the art.
- The comparative examples of the patent in suit were not suitable for showing any advantage over the examples of the invention, as all examples might lead to some droplets > 70 µm.
- No effect caused by the "high rate of spray" was shown.
- In D1 commercial fragrance capsules were used which could have diameters of up to 300 µm, as shown in D6. The droplets produced in D1 would be in such a case necessarily larger than 70 µm.
- Therefore, it would have been obvious to arrive at the claimed invention when starting from D1.

The arguments of the respondents of relevance for the present decision were as follows:

Sufficiency of disclosure

- Paragraph [0003] of the patent in suit defined what was meant by a "low rate of spray"; the examples of the patent showed instead what was meant by a "high rate of spray".
- The appellant's objection with regard to the ambiguity existing within the range between 13.3 and 50 g min^{-1} concerned the precise extent of a

"high rate of spray" and thus related to lack of clarity rather than to lack of sufficiency of disclosure.

Novelty
- D1 and D4 neither disclosed a "high rate of spray" nor droplets > 70 µm.
- Therefore, none of these documents destroyed novelty of the claimed subject-matter.

Inventive step
- D1 was the closest state of the art.
- The examples of the patent showed an improvement over this closest prior art.
- The skilled person had no reason to use in the process according to D1 fragrance capsules with diameters of up to 300 µm, as proposed by the appellant.
- The claimed invention therefore involved an inventive step.

Reasons for the Decision

Respondents' main request (patent as granted)

1. Sufficiency of disclosure

1.1 In the oral proceedings the appellant conceded explicitly that the process as described in the examples could be carried out. Given, however, the alleged lack of a definition of the term "a high rate of spray", as used in step c) of the process according to claim 1, the skilled person did not know, in the appellant's view, which was the lower limit of spray

rate that could be used when carrying out the invention.

1.2 The board agrees that an explicit definition of a "high rate of spray" to create droplets is not given in the patent in suit. However, as has also been argued by the opposition division in its decision, the patent in suit contains in paragraph [0003] a reference to D1 stating that this document disclosed a "low rate of spray". The only spray rate mentioned in D1 can be found in the example on page 15 with a value of 0.8 kg hr^{-1} = 13.3 g min^{-1}. This can only mean that this value represents, in the context of the present invention, a low rate of spray. For the board the "high rate of spray" required by the process according to the invention must consequently be (**significantly**) higher than the one exemplified in D1.

1.3 Such spray rates have been exemplified by the examples of the patent in suit and relate to values of 50 or even 100 g min^{-1}. It therefore follows that these spray rates are considered to be "high" in the context of the patent in suit.

1.4 Appellant took the view that spray rates higher than 13.3 and up to 50 g min^{-1} could either be regarded as low or high and would lead, due to this manifest uncertainty, to a lack of sufficiency of disclosure. When using such spray rates it was argued that the skilled person did not know whether he was working within/outside the claimed invention. This way of reasoning cannot be followed by the board. Paragraph [0003] of the patent in suit states in lines 26/27 with regard to D1 that "[t]*he spray rate is low and it takes 15 minutes to apply this much slurry*". Given this hint and taking into account the spray rates used in the

examples of the patent in suit, the person skilled in the art would select spray rates sufficiently remote from the cited lower value in order to arrive at reasonable application times.

1.5 Still, when regarding the spray rate *per se*, one could argue that nevertheless a "grey" area exists, where it is not clear whether the spray rate is to be considered "high" or "low". For the board this represents, however, an issue of clarity rather than sufficiency of disclosure.

1.6 Even when using a spray rate in the "grey" area, this rate must still be high enough to form droplets larger than 70 µm. Examples 1 to 4 on file also confirm that the "*droplet size of the spray is regulated by the flow of slurry and the flow of atomizing air*" (page 5, line 26 as granted). Thus, the person skilled in the art gets an unambiguous instruction how to adjust the processing conditions in order to obtain the desired droplets. In contrast to the appellant the board does not consider in this case a limited amount of necessary experimentation to be "a research project on its own" and therefore an undue burden to the skilled person.

1.7 Thus, the board does conclude that the claimed invention is sufficiently disclosed. It consequently meets the requirements of Article 100 (b) EPC together with Article 83 EPC.

2. Novelty

Document D1

2.1 As stated *supra* (1.2), it is the board's understanding and also stated in paragraph [0003] of the patent in

suit that **the only** spray rate disclosed in D1 is a "low rate of spray". Due to the explicit need defined in claim 1 for a "high rate of spray", the low spray rate of D1 is explicitly excluded by the wording of claim 1.

2.2 Furthermore D1 does not disclose the droplet size obtained in the process.

Therefore, D1 does not anticipate novelty of the subject-matter of claims 1 to 4.

2.3 A distribution of encapsulated benefit material in the final particulate laundry detergent composition as required in independent claim 5 of the patent in suit is also not disclosed in D1.

2.4 Therefore, D1 does not anticipate novelty of the subject-matter of claims 1, 5, 9 or any of their dependent claims.

Document D4

2.5 The appellant pointed to example 5 of D4, which refers back to example 1, as being novelty-destroying to the claimed subject-matter.

Example 1 relates to the preparation of electrically charged aminoplast microcapsules containing a fragrance. The slurry thus obtained is, according to example 5, deposited, by means of a pipette with an inner diameter of 1 mm, on powder beds of gum arabic, hydroxypropylcellulose, dexylose, sodium caseinate, hydroxypropyl methyl cellulose or ethyl cellulose.

2.6 In the board's view these examples do not anticipate the process according to claim 1 as claimed:

(a) The use of a pipette with an inner diameter of 1 mm does not necessarily lead to droplets larger than 70 µm, as the diameter of the pipette tip is not described. In fact, it may well be that the tip has such dimensions that very fine droplets are created.

(b) The spray rate is also not indicated. It can therefore not be concluded that a spray rate (clearly) above 13.3 g min^{-1} was used in D4.

2.7 Thus, the teaching of D4 does not directly and unambiguously anticipate the subject-matter of claims 1 to 4.

2.8 Similar considerations apply to the subject-matter of claims 5 and 9 and the dependent claims, as no details are given in D4 about the distribution of perfume in the final particulate as required in independent claim 5 of the patent in suit.

2.9 Therefore, the requirements of Articles 100 (a) together with Article 54 EPC are considered to be met.

3. Inventive step

3.1 The invention

The invention relates to a process of forming granules that deliver an encapsulated liquid laundry benefit agent (paragraph [0001]).

3.2 Closest state of the art

The board regards D1 to represent the closest state of the art as this document, like the patent in suit, relates to the production of granulated detergent compositions comprising encapsulated perfume.

This view was shared by both parties.

3.3 Problem

The problem vis-à-vis D1 is the provision of a further process for producing detergent granules that deliver an encapsulated liquid laundry benefit agent at a higher production rate and with a reduced loss of the benefit agent (see also page 2, lines 21 to 23, 43, 48 and 49 of the patent in suit).

3.4 Solution proposed

In order to overcome the cited problem the invention proposes to carry out the process according to claim 1, in particular to use a high spray of rate to create droplets larger than 70 µm.

3.5 Success of the invention

3.5.1 The spraying and mixing time in the process according to D1 takes 15 minutes (see the example of D1 and paragraph [0003] of the patent in suit), whereas that of the examples according to the patent is of 2.5 minutes (paragraph [0035]). This would, *as such*, already mean an improvement in the production rate with respect to D1.

3.5.2 However, the improvement can only be acknowledged if the final product does not lead to any deterioration of stability. The examples of the patent deal with this

issue. Examples 2 and 4 on page 5 represent examples according to the invention, whereas examples 1 and 3 are comparative. It appears that spray rate and air pressure are missing in example 5; the latter example can therefore not be used for comparison.

3.5.3 The comparisons of example 1 with example 2 and of example 3 with example 4 show the trend that with larger droplet size (Dv90 > 100 µm vs. Dv90 < 50 µm) the leakage of benefit agent (perfume) is reduced. In its reply to the grounds of appeal the respondents stated (page 3, line 7) that the droplet size of the comparative tests ranged in the order of 5 µm, which was not disputed by the appellant. Although the "Dv90" value used in table 1 only defines the requirement that 90% of the droplets must possess a certain size, and thus a Dv90 of < 50 µm as found for the comparative examples does not systematically exclude droplets > 70 µm being present, it can nevertheless be concluded from the data presented that an increase in droplet size leads clearly to reduction of leakage of the benefit agent.

3.5.4 Therefore, the board concludes that the products obtained by the combination of features of the claimed process (high rate of spray and droplet size > 70 µm) show improved leakage properties over D1 and it has no reason to assume that this effect cannot be achieved over the entire range claimed.

3.6 Obviousness

3.6.1 D1 does not give any hint towards using a spray rate different from 0.8 kg hr^{-1} (13.3 g min^{-1}). In particular, no indication can be found that the spray rate should be increased in such a way as to obtain

droplets larger than 70 µm and that by doing so not only the production rate can be improved but also the loss of benefit agent can be reduced.

3.6.2 Although D1 refers on page 4, lines 10 to 13, to the preferred use of melamine-urea-formaldehyde capsules produced by two different companies, there is no hint that (out of the broad range of commercially available capsule sizes) precisely the capsules used in example VIII of document D6 (the admissibility of which was not disputed by respondents), which possess a diameter of 300 µm, should be chosen, as alleged by the appellant. The cited passage of D1 is in fact silent about the **exact** features of suitable commercial products.

3.6.3 Thus, given the teaching of D1, the effects achieved by the process according to claim 1 are considered non-obvious and the skilled person would not find any motivation for modifying the process of D1 and arrive at the subject-matter of claim 1 at issue.

3.6.4 Example 7 of the patent lists the sieve fraction sizes of example 2 and the corresponding distribution of perfume in the diverse fractions. The example shows that particulate laundry dry compositions obtainable by the process according to the invention contain at least 10 % of the benefit agent associated with the sieve fraction of 1000 to 1400 µm. The distribution is considered to be associated with the reduced leakage of benefit agent and no proof to the contrary has been presented by the appellant.

3.6.5 Moreover, as explained in 2.3, *supra*, a distribution of encapsulated benefit material in the final particulate laundry detergent composition as required in independent claim 5 of the patent in suit is also not

disclosed in D1. Thus, the reasoning mentioned above with regard to the process of claim 1 applies *mutatis mutandis* to the product of claim 5.

3.6.6 Therefore, the process according to claim 1, the particulate laundry detergent composition according to claim 5, the use according to claim 9 and the subject-matter defined in the dependent claims is not considered to be obvious vis-à-vis the closest state of the art.

3.7 The claimed subject-matter therefore meets the requirements of Articles 100 a) in combination with Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano L. Li Voti

Decision electronically authenticated