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D E C I S I O N
of 26 November 2003

Case Number: T 0437/02 - 3.3.6

Application Number: 94924572.4

Publication Number: 0719319

IPC: C11D 3/00

Language of the proceedings: EN

Title of invention:
Reduced Misting Cleaner

Patentee:
ECOLAB INC.

Opponent:
The Procter & Gamble Company

Headword:
Particle size/ECOLAB

Relevant legal provisions:
EPC Art. 83

Keyword:
"Sufficiency of disclosure (no)"

Decisions cited:
T 0019/90, T 0409/91, T 0435/91; T 0932/92

Catchword:
-



Case Number: T 0437/02 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 26 November 2003

Appellant: ECOLAB INC.
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Respondent: The Procter & Gamble Company
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Representative: TER MEER STEINMEISTER & PARTNER GbR
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 13 March 2002
revoking European patent No. 0719319 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. N. C. Raths
M.-B. Tardo-Dino

Summary of Facts and Submissions

- I. The present appeal is from the decision of the Opposition Division to revoke the European patent No. 0 719 319 concerning a reduced misting cleaner.
- II. In its notice of opposition the respondent (opponent) sought revocation of the patent, *inter alia*, on the grounds of Article 100(b) EPC.
- III. In its decision, the Opposition Division found that the patent as granted did not comply with the requirements of the EPC. Claim 1 as granted, which is also Claim 1 of the main request, read as follows:

"1. Use of a sprayable strongly alkaline cleaner composition, formulated to reduce the formation of a choking aerosol when sprayed, the composition comprising:
(a) a source of alkalinity
(b) an organic surfactant,
(c) an organic polymer thickener, and
(d) water, wherein said composition is thixotropic, producing an aerosol having a mean airborne aerosol particle size of greater than 200 μm by spraying."

The dependent claims relate to particular embodiments of the use according to claim 1.

The Opposition Division found, in particular, that in the patent in suit

- the purpose of the use of the cleaner composition is not sufficiently disclosed,
- the size of the aerosol particles is not unambiguously disclosed,
- the spraying conditions are not disclosed,
- and that therefore, the patent in suit did not give sufficient information for carrying out the claimed invention in its whole extent without undue burden and, consequently, contravened the requirements of Article 83 EPC.

IV. An appeal was filed against this decision.

The appellant (proprietor) submitted in writing and in the oral proceedings held before the Board on 26 November 2003 that:

- an objection against the actual wording of Claim 1, if this was objectionable at all, could not be raised with respect to insufficiency of disclosure but only with respect to clarity which, however, was not a valid ground of opposition,
- the size of the particles resulted from the particle size analysis test made with the Malvern Instruments Particle Sizer Model INPD. A laser beam particle sizer yielded the relative volume

distribution. The median particle size in the examples indicated the size at 50%.

In order to prove that this particle sizer yielded the relative volume distribution, the appellant, under cover of the letter dated 22 July 2002, submitted document

(13) 2600 Series Particle Sizer Specification, 5 pages.

The appellant further submitted that the skilled person was aware of various variables of spraying conditions such as the design of the spraying nozzle, physical and flow properties of the air and the liquid properties of the compositions. In order to prove this, it submitted document

(10) Arthur H. Lefebvre, Airblast Atomization, Pergamon Press. Ltd., 1980, Printed in Great Britain, pages 233 to 261.

V. The respondent argued in writing and in the oral proceedings

- that the purpose of the use of the cleaner composition according to Claim 1 was not clear;
- that the size and size distribution had not been unambiguously defined; and
- that the spraying conditions were not sufficiently disclosed.

VI. Under cover of the letter dated 27 October 2003 the appellant filed an auxiliary request and further submitted the documents

(14) Bowermann O'Connell, Business Statistics in Practice, www.mhhe.com/bowerman.3e; and

(15) Continental AFA, Dispensing Company, 4 pages.

VII. The appellant requested that the decision under appeal be set aside and the case be remitted to the first instance for further prosecution on the basis of the claims as granted. It withdrew its auxiliary request submitted under cover of the letter of 27 October 2003.

The respondent requested that the appeal be dismissed.

VIII. At the end of the oral proceedings the chairman announced the decision of the Board.

Reasons for the Decision

1. Objection of sufficiency of disclosure.

1.1 Taking into account the decision of the Opposition Division and the arguments of the respondent, the objection raised under Article 83 EPC concerned, in essence, the indefinite purpose of the use of the sprayable cleaner as well as the particle size, the particle size distribution and the correlation of the particle size to the design features of the sprayer and to the physical and flow properties of the air and to the features of the sprayable composition.

1.2 The respondent argued that Claim 1 did not provide any enabling disclosure because the skilled person was not taught for what purpose the sprayable, strongly alkaline cleaner composition was to be used (letter dated 31 October 2002, page 1, line 11 to page 2, line 21).

2. *Interpretation of Claim 1 : Purpose of the use*

2.1 Since the language of Claim 1 is rather vague, its actual subject-matter had first to be clarified during oral proceedings.

2.2 The Board finds that Claim 1 as granted has to be read as follows:

"Use of a cleaner composition

- which is - sprayable,
- strongly alkaline,
- formulated to reduce the formation of a choking aerosol when sprayed,
- thixotropic,

and

- which comprises

- a source of alkalinity,
- an organic surfactant,
- an organic polymer thickener and
- water

for producing an aerosol having a mean airborne aerosol particle size of greater than 200 µm by spraying."

During oral proceedings both parties agreed to this reading.

- 2.3 Hence, the aerosol resulting from the claimed use must have the said particle size **and** must display also reduced choking response on breathing.

3. *Scope of Claim 1 and undue burden*

- 3.1 Thus, it has to be decided whether or not the patent in suit contains sufficient information so that the skilled person can perform the claimed use within the whole range of Claim 1.

Sufficiency of disclosure presupposes that the skilled person is able to obtain all embodiments falling within the ambit of Claim 1. (T 19/90 (OJ 1990, 476), and T 923/92 (OJ 1996, 564)). One example of performing the invention is only sufficient support to that end if it allows the invention to be performed in the whole range claimed rather than only in a specific embodiment. (T 409/91 (OJ 1994, 653); T 435/91 (OJ 1995, 188)).

In this case, the question to be answered is whether the skilled person, after reading the description and the claims, has at his disposal adequate information, possibly supplemented by his common general knowledge, leading necessarily towards success in case of initial failures without requiring an undue amount of experimentation.

- 3.2 The appellant argued that Claim 1 was supported by the description and it referred in particular to example 3A. The skilled person using his common general knowledge

to supplement the information contained in the patent in suit would be able to perform the invention with a reasonable amount of trial and error (letter dated 22 July 2002, page 2, two first lines from the bottom).

3.3 The Board cannot accept this argument.

3.3.1 The patent in suit discloses that "...the respiratory distress or involuntary choking response caused by the inhalation of such mist, depending on the irritation capacity of the cleaning compositions is inversely proportional to the particle size of the aerosol or mist" (page 3, lines 44 to 46).

It is further explained in the patent in suit that the "materials of the invention produce little or no small particle aerosol. The concentration of small particle airborne aerosol from a mean particle size greater than 200 μm is not sufficient to cause respiration difficulty." (page 3, lines 20 to 22). "Some spray nozzles produce a greater proportion of small particle airborne aerosol than others." (page 3, lines 23 to 24).

The Board concludes that the portion of the aerosol with a particular size below a given mean particle size and, thus, the particle size distribution, is decisive for respiratory distress and choking response on breathing.

Therefore, in the Board's judgment, the mean particle size alone is, in the absence of the indication of the particle size distribution, insufficient to properly characterize the aerosol.

3.4 The Board accepts that "mean particle size" refers to a normal distribution. However, a normal distribution is completely determined by two parameters: the "arithmetic mean" (or simply the "mean") of the distribution and the standard deviation. The standard deviation measures the spread of the particle size distribution curve. Larger standard deviations result in normal curves that are flatter and more spread out while smaller standard deviations result in normal curves that have higher peaks and are less spread out (document (14), page 3, second last paragraph). In this case, the standard deviation is missing. Therefore, the proportion of particles having a diameter in a certain range (or interval) is missing.

3.5 Consequently, there is no indication about the amount or proportion of particles that may have a size below the mean size without causing respiratory distress. For example, the passage referring to "mildly irritating materials tend to become irritating as the mean particle size drops below 170 μm " (patent in suit, page 3, line 48) does not disclose the critical amount of these particles. During oral proceedings, the appellant could not say what was the tolerable amount of particles having a size below the mean particle size required in Claim 1 in an aerosol causing reduced choking.

3.5.1 Turning now to example 3A, on which the appellant relied (see point 3.2 above), it is noted that while specifying all ingredients and amounts, it is also silent in respect of the proportion of particles having a smaller size than the mean size. Therefore, the skilled person is left without any indication what to

do, in case of failure, either when repeating the said example or when trying to prepare further embodiments of the composition to be used, i.e. a composition "formulated to reduce the formation of a choking aerosol when sprayed".

- 3.6 This functionally defined feature is material to the insufficiency of disclosure as there is no guidance in formulating a composition to be used other than that of example 3A. The manner in which this claimed functional feature is carried out is critical to the performance of the invention.

The interdependency of the components of the composition to be used has not been disclosed. The particle size of the aerosol has not been defined in dependence of the components and their concentrations. Ways of taking corrective measures have not been indicated; hints of how to find suitable choices in cases of failures are missing from the description of the invention.

In the circumstances of this case the skilled person needs to know how to adjust the components of the composition used to arrive finally at an aerosol with the desired particle size and a reduced formation of a choking aerosol. A certain amount of testing involving trial and error is permissible when reworking an invention and sufficiency of disclosure is at stake. However, in the present case, due to the absence of any useful guideline, this would amount to an undue burden for the skilled person.

4. Moreover, it is well known in the art that a number of parameters are to be considered in aerosol formation

and have an influence on the mean particles size in air blast atomization. According to document (10) of importance are viscosity, surface tension and density (page 245, right hand column, lines 11 and 12) as well as the air/liquid mass ratio (page 246, right hand column lines 9 and 10). Of most importance is "undoubtedly" the air velocity (page 246, right hand column, lines 1 and 2).

The patent in suit gives no indication how to adjust all these parameters so as to obtain a composition to be used as claimed.

5. The Appellant submitted that all the information missing from the patent in suit belonged to the skilled person's common general knowledge. The Respondent contested the existence of such common general knowledge. Since the Appellant, who was relying on such existence, did not provide any supporting evidence in this respect, its submission amounts to a mere allegation which cannot be taken into account by the Board.

6. Conclusion

In this case, the skilled person is unable to work the invention within the whole range of Claim 1 on the basis of the description by exercising routine methods since important technical details are missing. The missing information could not be supplemented by common general knowledge. Therefore, the disclosure of the invention is insufficient and not in compliance with the requirements of Article 83 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Rauh

P. Krasa