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**D E C I S I O N**  
**of 24 October 2005**

**Case Number:** T 0895/04 - 3.3.06

**Application Number:** 97916404.3

**Publication Number:** 0891417

**IPC:** C11D 3/39

**Language of the proceedings:** EN

**Title of invention:**

Compositions containing sodium percarbonate

**Patentee:**

Solvay Interox S.A.

**Opponent:**

Kemira Kemi AB  
The Procter & Gamble Company  
Degussa AG

**Headword:**

Moisture pick up/SOLVAY

**Relevant legal provisions:**

EPC Art. 83, 111(1)

**Keyword:**

"Sufficiency of disclosure (yes): method of measurement of new parameter can be carried out following the teaching of the patent in suit and using common general knowledge of the skilled person - whole range of values of claimed parameter important for technical problem underlying the invention (not as in T 0172/99)"

"Remittal (yes)"

**Decisions cited:**

T 0639/95, T 0226/85, T 0014/83, T 0409/91, T 0766/91,  
T 0172/99

**Catchword:**

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Case Number: T 0895/04 - 3.3.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.06  
of 24 October 2005

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**Decision under appeal:**

**Decision of the Opposition Division of the  
European Patent Office posted 14 May 2004  
revoking European patent No. 0891417 pursuant  
to Article 102(1) EPC.**

**Composition of the Board:**

**Chairman:** G. Dischinger-Höppler  
**Members:** L. Li Voti  
J. Van Moer

## Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to revoke the European patent No. 0 891 417, relating to a sodium percarbonate intended for incorporation in a builder-containing composition.

This patent was granted with a set of 18 claims, claims 1 and 12 of which reading as follows:

"1. Sodium percarbonate intended for incorporation in a builder-containing composition and having a mean particle size of from 500 to 1000  $\mu\text{m}$  characterized in that the core material of the sodium percarbonate which has not been subjected to a coating or a surface treatment has not more than 20% by weight of below 350  $\mu\text{m}$  and has a moisture pick-up when measured in a test at 80% relative humidity and 32 °C after 24 hours of not greater than 30g/1000g sample.";

"12. A method for selecting sodium percarbonate intended for incorporation in a builder-containing composition characterized by conducting the steps in either order of:

1) measuring its particle size distribution, determining its mean particle size and the weight fraction below 350  $\mu\text{m}$ , and rejecting material which either has a mean particle size outside the range of from 500 to 1000  $\mu\text{m}$  or contains more than 20% by weight of below 350  $\mu\text{m}$ ; and

2) measuring the extent to which moisture is picked up by the material in a test conducted for 24 hours at 32C

and 80% relative humidity and rejecting material which picks up more than 30g moisture per 1000g material."

Claims 2 to 11 related to particular embodiments of the claimed sodium percarbonate and claims 13 to 18 to detergent compositions comprising such a sodium percarbonate.

II. In their notices of opposition the Opponents 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 in suit did not contain sufficient information to enable a skilled person to determine accurately the values W2 (relating to the weight of an untreated percarbonate sample) and W3 (relating to the weight of said percarbonate sample after conditioning in a humid atmosphere) which were essential for the calculation of the moisture pick-up of the claimed percarbonate;
- in the absence of any guidance in the patent in suit, the skilled person, in the attempt to arrive at a moisture pick-up value within the claims, had to carry out the measurement of the moisture pick-up by trial and error for any selected sample of percarbonate;

- the patent in suit thus did not contain sufficient information which would enable the skilled person to select without undue burden a percarbonate as claimed.

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

The statement of the grounds of appeal was accompanied by a new set of claims to be considered as auxiliary request.

Oral proceedings were held before the Board on 24 October 2005.

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

- the patent in suit taught in paragraph 26 that the measurement of the moisture pick-up had to be carried out on a dry percarbonate sample;
- it was common general knowledge at the priority date of the patent in suit that a dry percarbonate contained between 0.1 and 0.3% by weight of water; this was shown, e.g., in the following documents:

(9): EP-A-0657527;

(28): Brochure "Sodium Percarbonate - Properties, Transport, Safe Storage and Handling" by Interox, 1978;

- (29): Brochure "Sodium percarbonate" by Interlox Chemicals Ltd, 1979;
- (30): US-A-4178351;
- (31): Brochure "Oxyper", by Interlox Chemicals Ltd, 1981;
- (32): Brochure "Peroxygen Compounds for Cleansing & Whitening - INTEROX<sup>®</sup> FB<sup>™</sup> Sodium Percarbonate" by Interlox America, 1982;
- (33): Brochure "Sodium percarbonate - Technical Data Sheet", by Solvay Interlox, 1992;
- (34): Brochure "Sodium Percarbonate - Technical Data Sheet - FB<sup>®</sup> Sodium Percarbonate Use in the Winery", by Solvay Interlox, 1993;
- (35): Brochure "FB<sup>®</sup> Sodium Percarbonate - A Formulating Guide", by Solvay Interlox, 1993;
- (36): Brochure "Technical Data Sheet - FB<sup>®</sup> Sodium Percarbonate in Industrial Laundries" by Solvay Interlox, 1995;
- the value W2 had thus to be measured by using a dry percarbonate sample having a water content of 0.1 to 0.3% by weight and, within this range, the measured moisture pick up was independent from the exact initial water content of the measured sample;
- moreover, in order to reduce so much as possible any experimental error in the measuring of the value W3, due to the release of the moisture

absorbed during conditioning in a humid atmosphere as described in paragraph 26 of the patent in suit, the sample could be weighed immediately after conditioning under the same conditions or could be protected by known means before being weighed;

- the values W2 and W3 and the moisture pick up could thus be easily measured by the skilled person by following the teaching of the patent in suit and by using his common general knowledge;
- the examples 1 to 3 and 7 of the patent in suit showed two methods for preparing a percarbonate having all the features of claim 1;
- furthermore, by using a method of preparation not leading directly to a product having a moisture pick up as claimed, the skilled person, knowing that the moisture pick-up value could depend e.g. on the original water content of the percarbonate sample, could find out by trial and error and without undue burden the drying conditions to be adopted during the preparation of a given percarbonate sample in order to obtain a product having the desired moisture pick up value;
- the claimed invention thus complied with the requirements of Article 83 EPC.

VI. The Respondents and Opponents 01, 02 and 03 submitted orally and in writing *inter alia* that

- it was not the common general knowledge of the skilled person at the priority date of the patent



in suit that the term "dry percarbonate" had to be understood as relating to a percarbonate containing only 0.1 to 0.3% water and the patent in suit did not contain any teaching as to how the term "dry percarbonate" should be interpreted;

- the results of a moisture pick-up test depended on the initial water content of the tested sample and thus, at least for values of moisture pick-up close to the claimed upper limit, the same sample falling within the scope of the claims could also fall outside the claimed scope if it would have been prepared by drying to a greater extent, since it would then absorb more moisture;
- therefore, in the absence of a clear definition of the term "dry percarbonate", the value W2 and thus also the resulting moisture pick up values could not be reliably measured;
- moreover, in the absence of such precise definition, even a percarbonate sample having a high water content and thus not having the stability looked for in the patent in suit could have a moisture pick-up value as claimed and thus fall within the scope of claim 1; this showed that the method of measurement had been insufficiently disclosed (see T 172/99);
- according to the description of the patent in suit the values W1, W2 and W3 had to be measured on the same balance; however, W3 could not be measured under the same conditions of humidity and temperature to which the sample had been submitted

for 24 hours and had thus to be measured in a separate room;

- moreover, since the conditioned sample could quickly lose the absorbed moisture as shown in document (5), i.e. Mr. Pekonen's Declaration filed at first instance, it was not possible to measure reliably W3 without a precise teaching of the specific operational steps to be carried out for such measuring;
- it was thus not possible to ascertain if a percarbonate sample fell within the scope of the claims or not;
- furthermore, the skilled person would not know how to modify the methods of preparation of percarbonate suggested in the patent in suit if the prepared sample did not show the required moisture pick-up value;
- the skilled person would have thus to test every single sample of percarbonate for its moisture pick up and, without any guidance in the patent in suit, could only identify samples having the right values by trial and error;
- the claimed invention was thus not sufficiently disclosed.

VII. The Appellant requests as a main request that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution on the basis of the claims as granted or, in the

alternative, on the basis of the claims according to the auxiliary request submitted with the statement of the grounds of appeal.

The Respondents request that the appeal be dismissed or, in the alternative, that the case be remitted to the first instance for further prosecution if the Board considers the requirements of Article 83 EPC to be met.

## **Reasons for the Decision**

### 1. *Sufficiency of disclosure*

- 1.1 According to the established jurisprudence of the Boards of Appeal of the EPO a European patent complies with the requirements of Article 83 EPC if a skilled person, on the basis of the description of the respective patent and of the common general knowledge, is able to carry out the claimed invention in its whole extent without undue burden and without needing inventive skill. In this respect also a reasonable amount of trial and error is permissible, provided that the specification contains adequate instructions or common general knowledge would lead the skilled person necessarily and directly towards success through the evaluation of initial failures or through an acceptable statistical expectation rate in case of random experiments; moreover if a claim is directed to a novel class of products, the description of the patent in suit should indicate at least one reliable and repeatable way for preparing it (see, for example, T 639/95, point 1 of the reasons for the decision, unpublished in the OJ EPO; T 226/85, OJ EPO 1988, 336,

point 8 of the reasons for the decision; T 14/83, OJ EPO 1984, 105, headnote; T 409/91, OJ EPO 1994, 653, point 3.5 of the reasons for the decision).

- 1.2 Claim 1 relates to a particulate sodium percarbonate characterised by a specific particle size distribution and by its moisture pick up value (see point I above).

Since the moisture pick up is not a commonly used parameter, it should be assessed if this parameter can be measured by the skilled person following the information given in the patent in suit and using his common general knowledge and if the skilled person would then be able to select a percarbonate as claimed without undue burden.

Moreover it has to be evaluated if the patent in suit describes at least one way for preparing in a reliable and repeatable way the claimed percarbonate having the selected particle size and moisture pick up.

- 1.3 As regards the moisture pick up value all parties agreed that no standardized method existed at the priority date of the patent in suit for measuring it and that it had thus to be measured according to the information given in the patent in suit.

According to the patent in suit (paragraph 26) a sample of **dry sodium percarbonate** of about 5 grams had to be placed on a petri dish of specific dimensions and known weight (W1), gently agitated to generate an even particulate layer across the base of the dish and reweighed on the same balance (W2); the sample on the petri dish was then stored in a room in an atmosphere maintained for a period of 24 hours at 32 °C and 80%

relative humidity by introduction of a fine droplet water spray from which the sample was protected by a shield; thereafter it was weighed on the same balance (W3).

The moisture pick up was then calculated as follows (paragraph 27):

$$\text{Moisture Pick-up (g/kg)} = \frac{1000 \times (W3 - W2)}{(W2 - W1)} .$$

- 1.4 In the decision under appeal it was found that the described method of measurement of the moisture pick up was not sufficiently disclosed and did not enable the skilled person to select reliably and without undue burden a product as claimed.

In particular, since the tested percarbonate sample had to be dry and the meaning of the term "dry percarbonate" was not clarified in the patent in suit, the value W2 could not be measured precisely.

The Board notes that the description of the patent in suit does not indeed contain any indication as to the exact meaning of the term "dry percarbonate". However, the Board cannot agree with the Appellant that such a product would be understood by a skilled person at the priority date of the patent in suit as a percarbonate containing only 0.1 to 0.3% water. In fact, all the documents (9) and (28) to (36) indicated by the Appellant for showing that this interpretation belonged to the common general knowledge of the skilled person are patent specifications or data information sheets of commercial products and, according to the established jurisprudence of the Boards of Appeal of the EPO, do

not represent, in the present case, suitable evidence of what was the common general knowledge of the skilled person at the priority date of the patent in suit (see e.g. T 766/91, point 8.2 of the reasons for the decision and Case Law of the Boards of Appeal of the EPO, 4th edition 2001, paragraph II.A.2.(a) on page 145).

Therefore, even though percarbonate products having a very low water content certainly existed at the priority date of the patent in suit, the skilled person would have not understood, in the Board's judgment, the term "dry percarbonate" to relate only to such products.

On the contrary, the description of the patent in suit teaches that a dry percarbonate is one obtained by crystallisation or other manufacturing process without a subsequent coating or surface treatment (see paragraph 11) and shows in examples 1 to 3 a method of preparing a percarbonate according to claim 1, which is dried by hot air (see page 8, line 32).

Thus, the Board finds that the skilled person, in the light of the teaching of the patent in suit, would have understood the term "dry percarbonate" to relate to a product which had been subjected to a drying step up to an unspecified degree of humidity within the particle but which should, however, permit to carry out the method of measurement described in the patent in suit, according to which the sample of dry percarbonate must be placed on the petri dish and **must generate a particulate layer across the base of the dish by gentle agitation**. The product thus must in the Board's view be dry on its surface.

The Board notes that the value W2, being **the weight** of the percarbonate sample and of the petri dish together, was measurable on a balance following the teaching of the patent in suit independently from the initial water content of the dry percarbonate and that the fact that the term "dry percarbonate" had no precise meaning was not an obstacle to the measurement of the moisture pick up. In fact the term "dry percarbonate" excludes, for the reasons mentioned above, the use of products which would have been regarded by the skilled person to be wet and sticky and to contain excessive amounts of moisture, i.e. unstable sodium percarbonate samples, and thus to be unsuitable for carrying out the measurement as described in the patent in suit.

Therefore, the Board finds also that the conclusions of the decision T 172/99, according to which the disclosure of an invention is not sufficient if the definition of a new parameter, though being formally correct and complete such that it can be measured without undue burden, does not retain its validity for the solution of the technical problem underlying the claimed invention (see catchword), are not applicable to the present case. In fact, the new parameters had been found in that case to encompass values not corresponding to those of a product solving the underlying technical problem (points 4.5.7 and 4.5.8 of the reasons for the decision) whilst, in the present case, all the measured percarbonates possessing the desired moisture pick up must be **dry** and thus sufficiently **stable**. Therefore all the measured values of moisture pick up falling within the scope of the claims are important, in combination with the selected

particle size, for the solution of the technical problem underlying the invention of the patent in suit (see paragraph 13).

Thus, the Board concludes that the value W2 can be measured without undue burden by the skilled person independently on the initial water content of the dry percarbonate.

- 1.5 In the decision under appeal it was also disputed that the value W3 was measurable without undue burden since it depended strongly, e.g., on the conditions used for measurement, as shown in document (5), and the patent in suit did not indicate where and how to measure this value.

The Board notes that it was well known at the priority date of the patent in suit that percarbonate is a hygroscopic product easily absorbing humidity and thus also releasing it easily if brought from a humid into a drier environment.

According to the method of measurement described in the patent in suit the value W3 has to be measured on the same balance used for measuring the values W1 and W2 (see page 4, line 53).

Thus, the skilled practitioner, being aware of the behaviour of percarbonate and knowing the precautions to be adopted when weighing this kind of products prone to absorb or release moisture, would have tried during measuring to reduce as much as possible any environmental influence on the measurement and would have known which impact such influence could have.



Therefore, it could have easily calculated the degree of failure due to the used measurement and reproduced reliably the invention also at the upper limit of moisture pick up values.

The Board notes also that the Respondents carried out measurements of moisture pick up during the first instance proceedings without any effort.

The Board thus concludes that the skilled person would have been able to measure in a reliable way and without undue burden the moisture pick-up value of a percarbonate sample. Thus, he would also have been able to select without undue burden a product having a moisture pick up falling within the range of claim 1.

- 1.6 The patent in suit suggests that the claimed percarbonate can be prepared by means of known conventional processes, e.g. by crystallisation, and that the use of sodium chloride as salting-out agent should be avoided (paragraphs 18 to 24).

All parties agreed that the skilled person would have been able at the priority date of the patent in suit to prepare or select a percarbonate having the required particle size distribution.

In the examples 1 to 3 and 7 (paragraphs 61 and 71 of the patent in suit) two processes are shown for preparing a percarbonate having all the features of the claimed one. As stated by the Appellant during the oral proceedings, the disclosure of such processes in said examples contains all the information necessary for the skilled person to obtain the required product.

In particular, even though the examples disclose only in general the process conditions to be adopted, the skilled person, an expert in this type of crystallisation or precipitation, by following the processes described in the examples and by using conventional operational conditions which were known to him, would have obtained a product as claimed.

No evidence was filed by the Respondents that it would not be possible to obtain a product as claimed by following the instructions given in the examples.

The Board also has no reason to doubt the Appellant's statement and thus is persuaded that the skilled person, by following the teaching of these examples, would necessarily arrive at a product as claimed.

Therefore, the patent in suit describes at least one way of preparing the claimed percarbonate.

- 1.7 As explained by the Appellant during oral proceedings, not all the processes for preparation suggested in the patent in suit lead necessarily to a percarbonate having all the features claimed.

The Board finds that this fact does not impinge sufficiency of the disclosure of the patent in suit, since at least one way of preparing the claimed product is disclosed in the patent in suit, as explained hereinabove.

Moreover, the Board is persuaded that, as discussed by the parties, if a given sample of percarbonate absorbs

too much water and does not comply with the requirements for the moisture pick up of claim 1, it can be dried less during its preparation so that it is not able to absorb so much as before (see points V and VI above).

Therefore, as argued by the Appellant during oral proceedings, the skilled person could adapt in such a case the drying conditions of the method of preparation by leaving all other conditions unchanged in order to obtain a product being less dry and thus less able to absorb water in the moisture pick up test. Moreover, he would also be able to construct a correlation curve between the moisture pick up values and the drying conditions and thus reduce the number of attempts needed by the skilled person for obtaining a product with the right moisture pick up.

Since the adjustment of a drying stage, e.g. of the time of drying, in order to achieve a certain degree of dryness is a standard operation well known to the skilled person, the Board finds that this step cannot be considered to amount to an undue burden for the skilled person even if it should be necessary to carry out this step for a large number of percarbonate samples (see T 14/83, headnote 2).

The Board concludes that the invention of claim 1 of the patent in suit is sufficiently disclosed.

- 1.8 The method of claim 12 relates to the selection of sodium percarbonate by measuring its particle size distribution and selecting the material which has 20% or less by weight of particles having a size of 350  $\mu\text{m}$

and has a mean particle size in the range of 500 to 1000  $\mu\text{m}$  and measuring the moisture pick up as indicated in the patent in suit and selecting the material having a value of 30 g moisture per 1000 g or less.

Since, for the same reasons mentioned above, the skilled person would have been able without undue burden to select a percarbonate having the specific particle size distribution and the moisture pick up as claimed, also this claimed invention is sufficiently disclosed.

1.9 The conclusions above apply also to the inventions described in claims 2 to 11 and 13 to 18.

2. *Remittal*

Although the claimed inventions have been found to be sufficiently disclosed, it still has to be assessed whether the claims satisfy the other requirements of the EPC, in particular whether the subject-matter of the claims is novel and inventive.

In the present case the decision under appeal was based on the ground of insufficiency of disclosure only.

Novelty and inventive step of the claimed subject-matter was discussed neither in the decision under appeal nor in the written submissions of the parties during the appeal proceedings.

Since all parties agreed that it was not appropriate under these circumstances to discuss novelty and inventive step and asked for the case to be remitted to

the first instance for further prosecution, the Board finds that in order not to deprive the parties of the opportunity to argue the remaining issues at two instances, it is appropriate to exercise its powers under Article 111(1) EPC to remit the case to the department of first instance for further prosecution.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of the claims as granted (main request).

The Registrar:

The Chairman:

G. Rauh

G. Dischinger-Höppler