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**Datasheet for the decision  
of 10 September 2022**

**Case Number:** T 1582/20 - 3.3.05

**Application Number:** 16197866.3

**Publication Number:** 3156365

**IPC:** C01B15/013, C07D303/04

**Language of the proceedings:** EN

**Title of invention:**

PROCESS FOR MANUFACTURING PROPYLENE OXIDE

**Applicant:**

Solvay SA

**Headword:**

MANUFACTURING PROPYLENE OXIDE/Solvay

**Relevant legal provisions:**

EPC Art. 123(2), 111(1)

RPBA 2020 Art. 12(2)

**Keyword:**

Amendments - allowable (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 1582/20 - 3.3.05

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.05**  
**of 10 September 2022**

**Appellant:** Solvay SA  
(Applicant) Rue de Ransbeek, 310  
1120 Bruxelles (BE)

**Representative:** Vande Gucht, Anne  
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Rue de Ransbeek, 310  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 6 November 2019  
refusing European patent application No.  
16197866.3 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** E. Bendl  
**Members:** J. Roider  
O. Loizou

## Summary of Facts and Submissions

- I. The appeal by the applicant (appellant) lies from the examining division's decision to refuse the patent application.
- II. The examining division concluded in its decision *inter alia* that the then pending main request did not meet the requirements of Article 123(2) EPC.
- III. In the appeal procedure, the appellant maintained as its main request the main request underlying the impugned decision.

A request for oral proceedings was made "[i]n case the Board of Appeal would not accept the main request".

- IV. The following documents are referred to in the present decision as:

D1	WO 2005/063619 A2
D2	US 6,649,140 B2
D3	DE 199 54 055 A1
D4	US 6,187,189 B1
D5	WO 02/14297 A1
D6	US 2012/0142950 A1

D1-D5 were cited by the examining division. D6 is known to the board.

- V. Claim 1 of the main request reads:

*"Process for manufacturing propylene oxide (1,2-epoxypropane) by reaction of propylene with hydrogen*

*peroxide, said process using a hydrogen peroxide solution containing less than 100 ppb of Al and/or Fe which is a purified aqueous hydrogen peroxide solution which has been obtained by an AO (auto-oxidation) process."*

- VI. The appellant argues that the process using purified hydrogen peroxide solution for the manufacture of propylene oxide was disclosed in the first paragraph of page 8 of the original application. The description referred only to the AO process (see e.g. page 1, lines 19-32). It was thus clear to the reader that the first paragraph of page 8 implies an AO process and that therefore the examining division's reasoning negating an original basis for the added feature relating to an AO process in claim 1 was wrong.
- VII. The appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the main request, alternatively on the basis of one of the auxiliary requests 1 to 3, submitted during the oral proceedings before the examining division, or further alternatively based on auxiliary request 4 or 5, submitted with the statement of grounds of appeal.

### **Reasons for the Decision**

1. Main Request, Article 123(2) EPC

The examining division was of the opinion that page 8, first paragraph of the application as originally filed did not disclose that the hydrogen peroxide solution was produced with an auto-oxidation process (AO process). Referring to the AO process disclosed in

other parts of the description was not allowable because these parts required a specific purification process.

This opinion is not shared by the board.

The application discloses no processes other than an AO process for the manufacture of the hydrogen peroxide solution. This is apparent from page 1, lines 19-32 but also from a summary of the whole process on page 4, lines 18-32.

According to page 7, last paragraph, the invention relates to the manufacture of propylene oxide involving the use of a hydrogen peroxide purified with a process as described. The description goes on to state, in the first paragraph on page 8, that the invention in more general terms relates to the manufacture of propylene oxide involving the use of a purified H<sub>2</sub>O<sub>2</sub> solution wherein, instead of requiring a specific purification process for the crude aqueous hydrogen peroxide solution, the content of certain metal impurities is limited.

This is also consistent with page 2, lines 1-12, according to which production of the propylene oxide requires an aqueous hydrogen peroxide solution with a low level of certain metal impurities. However, the process of achieving this is not mentioned, which appears logical to the skilled person because the manufacture of propylene oxide is a process downstream of the purification of the crude aqueous hydrogen peroxide solution. An interaction between the manufacture of propylene oxide and the purification process, particularly a feedback element, is neither described nor apparent.

The subject-matter of claim 1 is thus directly and unambiguously disclosed in the application as originally filed.

2. Oral proceedings

The appellant requested oral proceedings only in the event that the main request was not "accepted".

As the board decided in favour of the appellant, contrary to the decision of the examining division to reject the main request, and since its patentability is still to be decided as no final decision has been taken, oral proceedings before the board are not deemed to be necessary.

3. Remittal

3.1 The main request and first and second auxiliary requests of the patent application were not allowed on the ground that they violated Article 123(2) EPC. Irrespective of the merits of this objection, the examining division did not assess for these requests whether the requirements of Article 54(1) and (2) EPC and Article 56 EPC were met.

3.2 Concerning the third auxiliary request, the examining division decided that the requirements of Articles 76(1) and 123(2) EPC were met, but not those under Article 54(1) and (2) EPC.

3.3 However, the subject-matter of claim 1 of the third auxiliary request differs from that of claim 1 of the main request.

On the one hand, when considering the alternative of a limited aluminium content, the third auxiliary request contains fewer features than the main request and is thus broader. On the other hand, the decision under appeal has not dealt with the alternative of (solely) the amount of iron being limited.

For the main request, no conclusion with respect to the requirements under Article 54(1) and (2) EPC and Article 56 EPC can hence be derived from the decision.

- 3.4 As expressed in Article 12(2) RPBA 2020, it is the primary object of the appeal proceedings to review the decision under appeal in a judicial manner. It is therefore, in particular under the circumstances of this case, not for the board to consider and decide on Article 54(1) and (2) EPC or Article 56 EPC for the first time in appeal proceedings.

The board exercises its discretion and the case is therefore remitted to the examining division with the order to continue examination of the main request on the basis of documents D1 - D6 cited herein above.

## **Order**

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

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.



The Registrar:

The Chairman:



A. Voyé

E. Bendl

Decision electronically authenticated