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**Datasheet for the decision  
of 20 February 2013**

**Case Number:** T 0251/10 - 3.3.03

**Application Number:** 03720382.5

**Publication Number:** 1495057

**IPC:** C08F 2/22

**Language of the proceedings:** EN

**Title of invention:**

Co-metering of organic initiators and protective colloids  
during polymerization reactions

**Patent Proprietor:**

Akzo Nobel N.V.

**Opponent:**

Solvay (Société Anonyme)

**Headword:**

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**Relevant legal provisions:**

EPC Art. 114(2), 123(2),  
RPBA Art. 12(4)

**Keyword:**

"Amendments - added subject-matter - (yes) - (main request)"  
"Late-filed requests - clearly allowable (no) - (first and  
second auxiliary requests)"

**Decisions cited:**

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**Catchword:**

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Case Number: T 0251/10 - 3.3.03

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.03  
of 20 February 2013

**Appellant:** Solvay (Société Anonyme)  
(Opponent) Rue de Ransbeek, 310  
B-1120 Bruxelles (BE)

**Representative:** Jacques, Philippe  
Solvay S.A.  
Département de la Propriété Industrielle  
Rue de Ransbeek, 310  
B-1120 Bruxelles (BE)

**Respondent:** Azko Nobel N.V.  
(Patent Proprietor) Velperweg 76  
NL-6824 BM Arnhem (NL)

**Representative:** Schalkwijk, Pieter Cornelis  
Azko Nobel N.V.  
Intellectual Property Department  
P.O. Box 9300  
NL-6800 SB Arnhem (NL)

**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted  
9 December 2009 concerning maintenance of  
European patent No. 1495057 in amended form.

**Composition of the Board:**

**Chairwoman:** B. ter Laan  
**Members:** M. C. Gordon  
C. Vallet

## Summary of Facts and Submissions

I. The appeal lies from the interlocutory decision of the opposition division announced on 11 November 2009 and posted on 9 December 2009 according to which European patent number EP-B1-1 495 057 (granted on European patent application number 03 720 382.5, derived from international application number PCT/EP2003/003243, published under the number WO 2003/087168) could be maintained in amended form on the basis of auxiliary request 2 submitted during the oral proceedings before the opposition division ("Annex IV" of the minutes of the oral proceedings, "Annex 3.1" and "Annex 3.2" of the written grounds of the decision).

II. The application as filed had 11 claims whereby claim 1 and (dependent) claim 7 read as follows:

"1. A process of polymerizing a polymerization mixture comprising at least one monomer wherein at least an organic initiators [*sic*] and 0.01-1 wt.% of a protective colloid, based on the weight of the monomers to be polymerized, are metered to the polymerization mixture at a polymerization temperature.

7. The process according to any one of claims 1-6 wherein at least part of the initiator and at least part of the protective colloid are metered, intermittently and/or continuously, over a period wherein at least 20% of all monomer used in the polymerization is polymerized."

- III. The patent was granted with a set of 11 claims. Claim 1 corresponded to claim 1 of the application as filed except for the deletion of the final "s" on "initiators". Claim 7 was identical to claim 7 of the application as filed.
- IV. A notice of opposition against the patent was filed on 30 April 2007 in which revocation of the patent on the grounds of Art. 100(a) EPC (lack of novelty, lack of inventive step) and Art. 100(b) EPC was requested.
- V. The decision of the opposition division was based on three sets of claims forming a main request and first and second auxiliary requests, all filed at the oral proceedings before the opposition division.

Claim 1 of the second auxiliary request, which request was held by the opposition division to meet the requirements of the EPC, read as follows, differences compared to claim 1 as originally filed being indicated in **bold**, deletions in ~~striketrough~~:

"A process of polymerizing a polymerization mixture comprising at least one monomer wherein at least an organic initiator~~s~~ and 0.01-1 wt.% of a protective colloid, based on the weight of the monomers to be polymerized, are metered to the polymerization mixture at a polymerization temperature **by (a) adding portions of the initiator and of the protective colloid separately either in an alternating way or sequentially in random order to the reactor at at least 2 moments, or (b) metering at least part of the initiator and at least part of the protective colloid, intermittently and/or continuously, over a period of time during which**

**at least 20% of all monomer used in the polymerization is polymerized."**

VI. On 8 February 2010 the opponent lodged an appeal against the decision, the prescribed fee being paid on the same date. The statement of grounds of appeal was received on 16 April 2010.

A further written submission was made with a letter dated 18 January 2013.

VII. The patent proprietor - now the respondent - replied with a letter dated 21 October 2010.

The set of claims as upheld by the opposition division was maintained as the main request. Two sets of claims forming a first and second auxiliary request were submitted, the details of which are not relevant for the present decision.

A further written submission was made with letter bearing the date "14 January 2012", received on 14 January 2013.

VIII. On 22 November 2012 the Board issued a summons to attend oral proceedings. In a communication dated 14 December 2012 the Board set out its preliminary assessment of the case.

IX. Oral proceedings were held before the Board on 20 February 2013. During the course of the oral proceedings the respondent withdrew the two auxiliary requests submitted together with the rejoinder to the statement of grounds of appeal and filed two sets of

claims forming replacement first and second auxiliary requests.

Claim 1 of the first auxiliary request read as follows, additions compared to the set of claims as upheld by the opposition division being indicated in **bold**, deletions in ~~strikethrough~~:

"1. A process of polymerizing a polymerization mixture comprising at least one monomer wherein at least an organic initiator **with a half-life of from 0.0001 hour to 1 hour at the polymerization temperature** and 0.01-1 wt.% of a protective colloid, based on the weight of the monomers to be polymerized, are metered to the polymerization mixture at a polymerization temperature by (a) **adding a portion of the protective colloid to the polymerization mixture before addition of the initiator during either a cold-start or a warm-start process and by** adding portions of the initiator and of **the remaining portion of** the protective colloid separately either in an alternating way or sequentially in random order to the reactor at at least 2 moments, or (b) ~~metering at least part of the initiator and at least part of the protective colloid,~~ intermittently and/or continuously, over a period of time during which at least 20% of all monomer used in the polymerization is polymerized, **at least part of the initiator and at least part of the protective colloid.**"

Claim 1 of the second auxiliary request differed from claim 1 of the first auxiliary request by specifying a half-life of from 0.0001 hour to 0.5 hour.

X. The arguments of the appellant can be summarised as follows:

*Main request:*

Art. 123(2) EPC

(a) According to page 7, line 27 to page 8, line 13, of the application as filed the fast initiator and the protective colloid could be added simultaneously or separately. A portion of the protective colloid could be added to the reaction mixture before addition of the initiator during either a cold start or a warm start process. The passage following that sentence clearly referred to an embodiment in which a portion of the protective colloid had been added to the reaction mixture before addition of the initiator and consequently the remaining portion of the colloid still had to be added.

In contrast operative claim 1 did not specify that a portion of the protective colloid had already been added.

(b) In an alternative interpretation, the description could be read such that the initial addition of a portion of the protective colloid was an optional embodiment. However the consequence would then be that the subsequent passage also had to be interpreted as referring to addition of the fast initiator only. However the feature "fast initiator" was absent from claim 1 in respect of both these modes of addition.

- (c) Regarding part (b) of claim 1, compared to original claim 7 the meaning had changed. According to the wording of claim 1 part (b) it was ambiguous whether the metering related only to the colloid component or whether it related to both the colloid and the initiator components. Thus the claim had a different meaning to that of original claim 7 in which it was apparent that the metering applied to both components.

*First and second auxiliary request*

Art. 123(2) EPC

- (d) Claim 1 of the first and second auxiliary requests contained features taken not only from dependent claims but also from the description, in particular the addition of a portion of the colloid before addition of the initiator during either the cold-start or warm-start processes. In the respective claim 1 of the first and second auxiliary requests this feature had been further combined with other features. It was not reasonable to expect the respondent to deal with this new constellation of subject-matter at such a late stage of the procedure. The relevant objections had all been raised in the statement of grounds of appeal. Consequently the patent proprietor had had adequate time to address the objections and propose amendments well before the oral proceedings. Therefore, these requests should not be admitted to the proceedings.



XI. The arguments of the respondent can be summarised as follows:

*Main request*

Art. 123(2) EPC

- (a) The features of claim 1, part (a) had a basis at page 7 line 27 to page 9 line 9 of the application as filed. This part of the description provided a general explanation of how the metering was done. From that passage it was clear that adding a portion of the protective colloid before the initiator was an option, i.e. one possible embodiment. The following passage was a general description of how to meter the colloid and the initiator which was however not limited to the "remaining portion".
  
- (b) Claim 7 as originally filed, which was dependent on claims 1-6, reflected what was stated at page 8 starting at line 14 and was not restricted to an embodiment whereby colloid was added at the start of the reaction. Therefore, claim 7 revealed that the interpretation of the appellant that the passage on page 8 referred to only the "remaining portion" was incorrect. Therefore, the amendments of claim 1 were supported by the original application.

*First and second auxiliary request*

Art. 123(2) EPC

- (c) The amendments undertaken related to the fast initiator and specified its half life. In section (a) of the respective claim 1 the embodiment of page 7 last paragraph (portion of colloid added to mixture before addition of initiator) had been added. For part (b) of the claim the wording of original claim 7 had been employed to clarify that the metering over the given time period applied to both the initiator and the colloid. The specification of the half life was synonymous with the definition of "fast initiators" as followed from page 5 line 11 of the application as filed, where it was stated that preferred fast initiators were peroxides with the given half-life.

The amended wording addressed precisely the Art. 123(2) EPC objections raised by the opponent, in particular with respect to embodiment (a) and the passage at the last paragraph of page 7 of the application as filed.

- (d) The amendment arose from an objection raised by the respondent, who consequently should have been prepared for amendments to address the objection. He could therefore not have been taken by surprise by these amendments.

XII. The appellant (opponent) requested that the decision under appeal be set aside and that the European Patent No. 1 495 057 be revoked.

XIII. The respondent (patent proprietor) requested that the appeal be dismissed or alternatively that the patent be maintained on the basis of auxiliary requests 1 or 2 filed during the oral proceedings.

### **Reasons for the Decision**

1. The appeal is admissible.

#### *Main Request*

2. Art. 123(2) EPC

2.1 The passage forming the basis of the amendments to claim 1 commences at page 7 line 27 of the application as filed. It reads:

"During the polymerization reaction the **fast** initiator and the protective colloid can be added simultaneously or separately either in an alternating way or sequentially in random order at the polymerization temperature. A portion of the protective colloid may be added to the reaction mixture before the addition of the initiator during either a cold-start or a warm-start process. [...] The remaining portion is then added as described below." (page 7, line 27 to page 8, line 4, emphasis by the Board).

Then follows a new paragraph beginning with: "Portions of the initiator and the protective colloid can be added separately either in an alternating way or sequentially in random order to the reactor at at least 2 [preferably 4,10,20] moments." (page 8, lines 5 to 8), which paragraph is followed by a paragraph beginning with: "Metering of the fast initiators and the protective colloids can also proceed simultaneously, and this can be done intermittently or continuously over a period of time during which at least 20% [preferably 40%, 60%] of all monomer used in the process is polymerized." (page 8, lines 14 to 17).

2.1.1 Hence, the indicated passages concern the methods of adding the initiator and the colloid to the polymerization reaction. The first paragraph (beginning at page 7, line 27) is a general description, indicating that the fast initiator and the protective colloid may be added simultaneously or separately, the latter possibility being subdivided in either an alternating way or sequentially in random order. The text of the application then goes on to describe more details of each of the methods of addition. The paragraph beginning at page 8, line 5 refers to the separate addition, repeating that that can be done either in an alternating way or sequentially in random order. Then, in the paragraph beginning at page 8, line 14, the simultaneous addition is described, which can be done intermittently or continuously over a certain period of time.

2.1.2 From the structure of the text of the application it can be concluded that the above indicated paragraphs form a coherent entity that has to be read together.

Since the first sentence on page 7, line 27, as well as the sentence on page 8, line 14, refer to fast initiators, it can only be concluded that the whole passage referring to the methods of adding the initiator and the colloid to the reaction, concerns fast initiators, not just any initiator.

2.2 The first part of claim 1 is, with the exception of the correction of a typographical error, identical to claim 1 as originally filed (see section V, above).

2.2.1 The following part, i.e. alternative (a), employs wording similar to that at page 8, line 5 to 8 of the application as filed. The feature "fast" is however absent from operative claim 1, meaning that the subject-matter thereof to this extent extends beyond the content of the application as filed contrary to the requirements of Art. 123(2) EPC. Therefore, whether or not the addition of a portion of the colloid before the initiator is to be seen as an optional embodiment - as suggested by the wording "may be" (page 7 line 30) - does not play a role.

2.2.2 Part (b) of operative claim 1 contains elements that are present in original claim 7 (see section II above, which claim is identical to granted claim 7) and in the paragraph starting at page 8 line 14 of the description. Original claim 7 states that "at least part of the colloid and at least part of the initiator **are** metered intermittently or continuously over a period [defined in terms of the extent of polymerisation]" (emphasis of the Board). The use of the plural form of the verb indicates that the metering applies to both components simultaneously, which is consistent with the original

description page 8, lines 14 to 17. However, part (b) of operative claim 1 uses a slightly changed wording ("metering at least part of the initiator and at least part of the protective colloid") which wording removes the link between the addition of the two components with the consequence that the simultaneous addition of both the initiator and the colloid is no longer required, or is at least open to interpretation.

2.2.3 The absence of either of the features of "simultaneous addition" of initiator and colloid or "fast" initiator (see point 2.1 above) from part (b), results in a (further) extension of the subject-matter of claim 1 beyond the content of the application as originally filed.

2.3 Due to the defects in parts (a) and (b), claim 1 does not meet the requirements of Art. 123(2) EPC and has to be refused.

3. Since the main request has to be refused for added subject-matter, a decision on clarity (Art. 84 EPC) is not necessary.

Auxiliary requests 1 and 2

4. Admissibility

4.1 Auxiliary requests 1 and 2 were submitted at the oral proceedings before the Board, after discussion of the main request.

The matters which according to the respondent it was intended to address by filing these requests were not

raised for the first time at the oral proceedings but had been raised at the earliest stage of the appeal procedure, namely in the statement of grounds of appeal. Consequently the Board can identify no justification for filing such requests only at the last stage of the appeal procedure.

The newly filed auxiliary requests differ in a number of points from the main request as indicated in section IX above.

- 4.2 The introduction of the half-life of the initiator is based on a passage at page 5 line 11. However in the stated passage it is specified that the initiators are organic peroxides. This feature is absent from the claim.

Regarding part (b) of the claim the wording now adopted is closer to claim 7 as originally filed than that of the main request. The present wording is however still not unambiguous regarding the simultaneous (or not) addition of initiator and colloid. The conclusion is that the first and second auxiliary requests as filed at the oral proceedings are not clearly allowable with respect to Art. 123(2) EPC.

- 4.3 Accordingly in exercise of the discretion permitted pursuant to Art. 114(2) EPC and Art. 12(4) RPBA the first and second auxiliary requests are not admitted to the proceedings.

**Order**

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

- The decision under appeal is set aside.
- The patent is revoked.

The Registrar

The Chairwoman

E. Goergmaier

B. ter Laan