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**Datasheet for the decision
of 31 March 2015**

Case Number: T 0679/12 - 3.3.03
Application Number: 08726360.4
Publication Number: 2118147
IPC: C08F2/00, C08F2/34, C08F10/00
Language of the proceedings: EN

Title of invention:

GAS-PHASE PROPYLENE POLYMERIZATION PROCESS USING STAGED
ADDITION OF ALUMINUM ALKYL

Applicant:

Ineos Technologies USA LLC

Headword:

Relevant legal provisions:

EPC Art. 83, 84, 123(2)

Keyword:

Claims - clarity (no) (Main request)
Sufficiency of disclosure - (no) (main request)
Amendments - added subject-matter
(yes) (1st, 2nd, 3rd auxiliary requests)

Decisions cited:

Catchword:



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Chambres de recours**

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Case Number: T 0679/12 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 31 March 2015

Appellant: Ineos Technologies USA LLC
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Representative: Smith, Julian Philip Howard
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 7 November 2011
refusing European patent application No.
08726360.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman B. ter Laan
Members: M. C. Gordon
C. Brandt

Summary of Facts and Submissions

I. The appeal lies from the decision of the examining division rejecting European patent application number EP 08 726 360.4 (derived from international application number PCT/US2008/002803, published under the number WO2008/109024).

II. The application as originally filed has 12 claims whereby claim 1 read as follows:

"An olefin polymerization process comprising gas-phase polymerization of at least one olefin monomer in more than one polymerization zones using a high activity Ziegler-Natta catalyst system comprising a solid, magnesium-supported, titanium-containing compound and an aluminium alkyl co-catalyst component comprising:

a) introducing the titanium-containing component and an aluminium alkyl component into the first polymerization zone; and

b) introducing additional aluminium alkyl component into a subsequent polymerization zone without added titanium-containing component".

Claims 2-12 were dependent claims.

III. The decision was based on the claims of the application as filed as the main request and an amended set of 8 claims as auxiliary request. Claim 1 of the auxiliary request differed from the main request in that the aluminium components in each of step (a) and (b) were specified as C3-C12 alkyl aluminium and triethyl aluminium respectively and further in that in step (b) the word "second" was inserted before "subsequent".

According to the decision claim 1 of the main request did not meet the requirements of Art. 84, 54 and 56 EPC and the auxiliary request did not meet the requirements of Art. 84 and 56 EPC.

- IV. Together with the statement of grounds of appeal the applicant, now the appellant, submitted four sets of claims forming a main and first-third auxiliary requests.

Claim 1 of the main request (12 claims) was identical to claim 1 as originally filed.

In claim 1 of the first auxiliary request (also having 12 claims) at the end of the claim the phrase: "the first and subsequent polymerization zones being different locations in a plug flow reactor" was introduced.

In claim 1 of the second auxiliary request (8 claims) the additional aluminium alkyl component of step b) was specified as "triethyl aluminium alkyl" [sic].

In claim 1 of the third auxiliary request (9 claims) the amendments constituted a combination of the first and second auxiliary requests with the difference that now in step b) triethyl aluminium was specified.

- V. The Board issued a summons to oral proceedings and in a communication set out its preliminary opinion. Objections pursuant to one or more of Art. 123(2), 84, 83, 54 and 56 EPC were raised against all the requests. In particular it was questioned whether the requirements of Article 123(2) EPC were fulfilled by any of the requests.

- VI. The appellant/applicant responded in writing withdrawing its request for oral proceedings and requesting a decision based on the written record.
- VII. The written arguments of the appellant, insofar as they are relevant for this decision, can be summarised as follows:

Main request

- a) Art. 123(2) EPC

The claims were "substantially the claims as filed at the EPO".

- b) Art. 84 EPC

The term "high activity" did not render the claims unclear. This was a term of art well understood by the skilled person, as witnessed by a number of publications referred to in - but not attached to - the statement of grounds of appeal. The skilled person was also aware of the constitution of a high-activity Ziegler-Natta catalyst. The claim defined all essential features of the catalyst and this definition was not relied upon as a distinction over the prior art. Reference was made to a number of hyperlinks as well as to the Guidelines CIII 4.6.

First auxiliary request - Art. 123(2) EPC

The amendments were based on the passage bridging pages 7 and 8 of the application as originally filed.

Second auxiliary request - Art. 123(2) EPC

Claim 1 differed from claim 1 of the main request by specification of the aluminium compounds added to the first zone and the second subsequent zone.

Third auxiliary request - Art. 123(2) EPC

Claim 1 combined the amendments of the first and second auxiliary requests.

VIII. The appellant/applicant requested that the decision under appeal be set aside and a patent be granted on the basis of one of the sets of claims submitted with the statement of grounds of appeal.

Reasons for the Decision

1. The appeal is admissible.
2. Art. 113(1) EPC

A decision can be taken because by means of the written communication of the Board, the appellant has been made aware of the objections that existed, including those going beyond the objections raised in the decision of the examining division. The appellant was given the opportunity to respond to the objections raised in writing as well as orally by the summons to an oral proceedings.

The Appellant responded by withdrawing the request for oral proceedings and explicitly requested that a decision be taken on the basis of the written record, i.e. including said communication of the Board, notwithstanding that matters had been raised therein that had not been addressed by the appellant in its statement of grounds of appeal.

3. *Main request*

3.1 Art. 123(2) EPC

The appellant submitted that the claims of the main request were "substantially" those of the application as filed. No further elucidation of this statement was provided, even after this matter was raised in the communication of the Board. Consequently it is obscure what is meant hereby and what, in the view of appellant are the amendments made compared to the application as filed. Under these circumstances the Board can only observe that the claims appear to be identical to those of the application as filed and consequently that, *prima facie* there are no grounds for concluding that the requirements of Art. 123(2) EPC are not met.

3.2 Art. 84 EPC

The examining division held that the feature "high-activity" with respect to the catalyst system introduced an unclarity. The Board shares this view. The appellant has not demonstrated that the term "high-activity" has a clear meaning in the art, e.g. with respect to the constitution of the catalyst or in respect of a given level of activity defined in objective terms. Whether, as argued by the appellant, the term is commonly used is irrelevant to the question of clarity because such wide usage does not on its own constitute evidence that the term has an unambiguous meaning.

According to the description of the application (page 10, lines 1-25) the catalyst is defined more precisely in terms of the permitted magnesium and titanium compounds. This in turn confirms that the term "high-

activity" is not by itself clear but is in need of further definition or clarification. The argument that the features in question are not relied upon to distinguish from the prior art cannot overcome the clarity defect because, independently of what prior art may or may not be cited, the scope of the claims has to be clear, as stipulated by Art. 84 EPC (Case Law, 7th ed., II.A.3). Furthermore in view of the evident possibility, as set out in the description of the application, of defining the catalyst more precisely, it is demonstrably not the case that the wording of the claims represents the only feasible manner adequately to define the required catalyst systems. Consequently the definition of the catalyst system as "high-activity" cannot serve to define clearly the claimed subject-matter so that it does not meet the requirements of Art. 84 EPC.

3.3 The main request does not meet the requirements of Art. 84 EPC and is therefore refused.

4. First auxiliary request

Art. 123(2) EPC

Claim 1 of the first auxiliary request differs from claim 1 of the main request by the introduction of the specification of plug-flow conditions (see section IV, above).

A reference to plug-flow reactors is present in the passage bridging pages 7 and 8 of the application. Said passage states that the zones may be separate reactor vessels or that the zones may "represent" different locations in a "substantially" plug-flow reactor. The wording of claim 1 of the first auxiliary

request differs from this passage of the description in two respects. First, the claim employs the verb "*being* different locations" instead of "*represent* different locations". The reason for this discrepancy is not apparent and has not been addressed by the appellant. However it cannot be concluded that the technical meaning of these two wordings is necessarily identical. Further the description states that the different locations are in a "substantially" plug flow reactor. The term "substantially" is absent from the operative claim. While the board acknowledges that the meaning of the term "substantially" is vague, it nevertheless imposes some restriction on the subject-matter so defined. Due to the omission of this adverb, and in the absence of any explanations from the appellant, it cannot be concluded that the claimed subject-matter has not been extended compared to that of the application as originally filed. Also, the passage of the description specifies that there are differing polymerisation conditions in the different locations or zones. This feature is absent from the operative claim.

The consequence of the foregoing is that it is concluded that claim 1 of the first auxiliary request does not meet the requirements of Art. 123(2) EPC. The first auxiliary request is therefore refused.

5. Second auxiliary request

Art. 123(2) EPC

Claim 1 specifies in features (a) and (b) the nature of the aluminium alkyl component introduced.

The specified components are those disclosed in originally filed claim 7. In feature (b) of operative claim 1 it is stated that triethyl aluminium alkyl

component (which the Board, to the benefit of the appellant, supposes to be meant to be triethyl aluminium), is introduced into a "subsequent" polymerisation zone. Original claim 7 however specified that said compound was added to a "second" polymerisation zone. The originally filed claim was therefore more restricted than the operative claim, which allows the further addition to be in any subsequent zone, not only in the second zone. The appellant has not given any basis in the original application for that amendment, not even after the Board's questions in its communication and the Board is unable to find any such basis, in particular not on original page 8, lines 23-29, where reference is made to "first" and "second" polymerization zones as well.

Consequently the subject-matter of claim 1 of the second auxiliary request extends beyond the content of the application as originally filed and as a consequence does not comply with the requirements of Art. 123(2) EPC. The second auxiliary request is therefore refused.

6. Third auxiliary request

Art. 123(2) EPC

Claim 1 of the third auxiliary request combines the amendments of the first and second auxiliary requests. For the reasons indicated on the first and second auxiliary requests, the third auxiliary request does not satisfy the requirements of Art. 123(2) EPC.

The third auxiliary request is refused.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



I. Aperribay

B. ter Laan

Decision electronically authenticated