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**Datasheet for the decision
of 31 May 2007**

Case Number: T 0097/05 - 3.3.03

Application Number: 93900724.1

Publication Number: 0614468

IPC: C08F 10/00

Language of the proceedings: EN

Title of invention:

Polyionic transition metal catalyst composition

Patentee:

ExxonMobil Chemical Patents, Inc.

Opponent:

THE DOW CHEMICAL COMPANY

Headword:

-

Relevant legal provisions:

EPC Art. 84, 123(2)

Keyword:

"Amendments - added subject-matter (main request, first auxiliary request - yes)"

"Amendments - added subject-matter (second auxiliary request - no)"

"Claims - clarity (second auxiliary request - yes)"

"Remittal to the opposition division for further prosecution"

Decisions cited:

T 1239/03

Catchword:

Amendment of claim resulting in shift in information provided by examples (reasons 2.3, in particular 2.3.4-2.3.6 by analogy with T 1239/03-3303)



Case Number: T 0097/05 - 3.3.03

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 31 May 2007

Appellant: ExxonMobil Chemical Patents, Inc.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office dated 11 November 2004
and posted 23 November 2004 revoking European
patent No. 0614468 pursuant to Article 102(1)
EPC.

Composition of the Board:

Chairman: R. Young
Members: M. C. Gordon
E. Dufrasne

Summary of Facts and Submissions

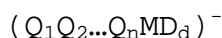
- I. Mention of the grant of European Patent No. 0 614 468 in the name of Exxon Chemical Patents Inc., later ExxonMobil Chemical Patents Inc. in respect of European patent application No. 93900724.1, filed on 25 November 1992 as international application No. PCT/US92/10296, published as WO 93/11172 on 10 June 1993, and claiming priority of US patent application No. 796 729 dated 25 November 1991, was announced on 17 September 1997 (Bulletin 1997/38) on the basis of 22 claims.

Independent claim 1 read as follows:

"1. An activated catalyst composition comprising a polyanionic moiety comprising a plurality of metal or metalloid atom-containing non-coordinating [*sic*] anionic groups pendant from and chemically bonded to a core component, a plurality of the pendant non-coordinating anionic groups of which are in non-coordinating association with a plurality of cationic transition metal components derived from one or more ligand stabilized transition metal compounds."

Dependent claim 2 specified the anionic groups and read as follows:

"2. A composition according to claim 1 in which the anionic groups are represented by the formula:



wherein:

M is a metal or metalloid element selected from [*sic*] Groups 3-15;

$Q_1 - Q_n$ are radical ligands each of which is, independently, hydride, halide, disubstituted amido, alkoxide, aryloxy, hydrocarbyl, substituted hydrocarbyl, halocarbyl, substituted halocarbyl, or a hydrocarbyl- or halocarbyl-substituted organometalloid;
 n is the number of Q-ligands;
 d is 0 or 1; and
when d is 1, D is a bridging moiety which links a pendant non-coordinating anion to the core."

Dependent claims 3-17 were directed to preferred embodiments of the activated catalyst composition. Claims 18 and 19 were independent method claims, each directed to a (different) method of producing an activated catalyst composition according to any one of claims 1-17.

Claim 20 was an independent process claim directed to a process for polymerizing an olefin to a polyolefin by contacting an olefin monomer with an activated catalyst composition according to any one of claims 1-17.

Dependent claims 21 and 22 were directed to preferred embodiments of the process of claim 20.

II. A notice of opposition was filed on 17 June 1998 by The Dow Chemical Company.

It was requested that the patent be revoked in its entirety on the grounds of lack of novelty and lack of inventive step (Article 100(a) EPC) and on the grounds pursuant to Article 100(b) EPC.

III. By a decision announced orally on 11 November 2004 and issued in writing on 23 November 2004 the opposition division revoked the patent.

The decision was based on a main and an auxiliary request, both filed during the oral proceedings before the opposition division and designated "Set B'" and "Set C'" respectively, each comprising 20 claims. Claim 1 of the main request (Set B') had been amended, compared to claim 1 of the patent as granted, *inter alia* by replacement of the term "chemically bonded" by "covalently bonded" and by incorporation of the features of original claim 2 recited in section I above. Claim 1 of the main request thus read as follows, insertions compared to claim 1 as granted being indicated in **bold**, deletions in [square brackets].

"1. An activated catalyst composition comprising a polyanionic moiety comprising a plurality of metal or metalloid atom-containing non-coordinating [*sic*] anionic groups pendant from and [chemically] **covalently** bonded to a core component **and represented by the formula:**



wherein:

M is a metal or metalloid element selected from [*sic*] Groups 3-15;

Q₁-Q_n are radical ligands each of which is, independently, hydride, halide, disubstituted amido, alkoxide, aryloxy, hydrocarbyl, substituted hydrocarbyl, halocarbyl, substituted halocarbyl, or a hydrocarbyl- or halocarbyl-substituted organometalloid;

n is the number of Q-ligands;

d is 0 or 1; and

when d is 1, D is a bridging moiety which links a pendant non-coordinating anion to the core,

a plurality of the pendant non-coordinating anionic groups **being** [of which are] in non-coordinating association with a plurality of cationic transition metal components derived from one or more ligand stabilized transition metal compounds."

Claim 1 of the first auxiliary request (Set C') differed from claim 1 of the main request in that the index "d" in the formula of the anion groups was mandatorily 1.

Dependent claims 2-10 of the main and first auxiliary requests were directed to preferred embodiments of the activated catalyst composition of claim 1, corresponding to claims 3-11 of the patent as granted. Claims 6 and 8 of the main and first auxiliary requests, which specified preferred embodiments of the polyanion, also employed the term "covalently" whereas the corresponding claims as granted (claims 7 and 9) had employed the term "chemically". Claim 11 of the main and first auxiliary requests was a combination of claims 12 and 13 as granted; Claims 12-15 of the main and first auxiliary requests corresponded to claims 14-17 as granted. Claims 16-20 of the main and first auxiliary requests corresponded to claims 18-22 of the patent as granted (see section I above).

According to the decision:

- (a) The subject matter of claim 1 of the main request was based on a combination of the subject matter of claims 1 to 3 and 17 of the application as filed together with lines 22 to 24 of page 18 of the application as filed. This combination did not require mutual selections from the application as filed and therefore complied with the requirements of Article 123(2) EPC.

- (b) The feature "covalently bonded" in claim 1 of both requests made the claimed subject matter of both requests unclear and hence violated the requirements of Article 84 EPC.

Accordingly the patent was revoked.

- IV. A notice of appeal was filed by the patent proprietor, now the appellant on 21 January 2005, the prescribed fee being paid on the same day.

It was requested that the decision under appeal be set aside. An auxiliary request was made for oral proceedings.

- V. The statement of grounds of appeal was filed on 30 March 2005.

The sets of claims forming the main and auxiliary requests on which the decision of the opposition division had been based (Sets B' and C' - see section III above) were maintained as main and first auxiliary requests respectively. Further sets of claims forming

second to ninth auxiliary requests (sets D, E, F, G, H, I, K and L) were submitted.

Common to all these second-ninth auxiliary requests were amendments whereby the term "chemically", employed in the claims of the patent as granted (see section I above), had been reinstated in place of "covalently". Thus the claims of the second auxiliary request ("Set D") were identical to the claims of the main request recited above, apart from the replacement of the term "covalently" by "chemically" in claims 1, 6 and 8 (see section III above).

VI. In a rejoinder received on 15 August 2005 the opponent, now the respondent maintained objections pursuant to Articles 84 and 123(2) EPC in respect of the term "covalently". The ground according to Article 83 EPC was also invoked.

VII. The board issued a summons to oral proceedings on 26 February 2007.

In the accompanying communication *inter alia* a number of incorrect dependencies in the claims according to all requests were noted.

VIII. In a letter dated and received on 27 April 2007 the respondent maintained its objections pursuant to Article 123(2) EPC in respect of the feature "covalently bonded" in claim 1 of the main and first auxiliary requests.

IX. Together with a letter dated 27 April 2007 and received on 30 April 2007, the appellant submitted amended versions of the sets of claims according to the main request and first-ninth auxiliary requests. It was submitted that the deficiencies in the claims identified by the board in the communication accompanying the summons to oral proceedings had been corrected (see section VII above).

X. In a letter dated and received 22 May 2007 the respondent submitted an experimental report replicating an example of one of the documents cited in respect of novelty in the opposition procedure.

XI. Oral proceedings before the board took place on 31 May 2007.

(a) The board observed that the ground for revocation was Article 84 EPC, the term objected to being the result of an amendment that had been undertaken during the opposition proceedings.

Since an amendment had been made, the first matter to be addressed was the admissibility of this amendment pursuant to Article 123(2) EPC.

Specifically, the question to be answered was whether the amendment of the claim by specifying the bonding as being "covalent" resulted in a shift in the way in which the description and examples, in particular examples 7 and 8 would be interpreted.

(b) In this connection the attention of the parties was drawn to T 1239/03 (2 November 2006, not published in the OJ EPO).

In the case underlying T 1239/03 two examples had been deleted from the patent. The question that arose was whether a specific feature of the claim would have been interpreted in the same manner before and after the amendment. The board in that case concluded that there had been a "lateral shift" of information, corresponding to an extension of subject matter beyond the content of the application as filed, contrary to the requirements of Article 123(2) EPC (section 3.3 of the reasons of T 1239/03, in particular 3.3.4 and 3.3.5).

- (c) The appellant submitted that it was not considered necessary to delete any examples. The wording of the claims on file was submitted to be consistent with the position taken throughout the opposition proceedings according to which it had been argued that the bonding in examples 7 and 8 between the anion and the core was covalent. It was conceded that there was no disclosure in the description to confirm this position.
- (d) The respondent argued with respect to its submission of 27 April 2007 (see section VIII above) that the application as filed, in particular in the discussion at page 18 lines 21-26 made no distinction between covalent, ionic or dative bonding, subsuming all three under the term "chemically bound". It was disputed that it was possible on the basis of examples 7 and 8 of the patent in suit to ascertain whether the bonding was covalent and not some other mode. There was no direct link between the reference to covalent

bonding at page 18 and the formulae of the examples or the formulae presented in the general part of the application.

- (e) The appellant submitted that certain of the arguments advanced belonged in the discussion of infringement and that if there was a grey area this would be to the detriment of the patent proprietor.
- (f) Following announcement by the board of the decision that the main request did not meet the requirements of Article 123(2), the appellant indicated that no additional submissions would be made in respect of the first auxiliary request.
- (g) The respondent raised no objection with regard to the introduction of the second auxiliary request (Set D). The respondent further stated that no objection was raised against the claims of the second auxiliary request pursuant to Article 84 or 123(2) EPC.

XII. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the case be remitted to the opposition division for further examination on the basis of set B' or, in the alternative C', D, E, F, G, H, I, K or L, all filed with the letter dated 27 April 2007.

The respondent (opponent) requested that the appeal be dismissed or, in the alternative, that the case be remitted to the opposition division for examination of the opposition grounds of Article 100(a) and 100(b) EPC.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request - admissibility of amendments made during opposition proceedings*
 - 2.1 During the opposition proceedings claim 1 was modified by replacing the term "chemically" with "covalently" in order to specify the nature of the bond between the anionic groups and the core. A similar amendment was made to claims 6 and 8 of the main request (see section III above).
 - 2.1.1 The first matter to be considered is whether this amendment resulted in the patent containing subject matter extending beyond the content of the application as filed (Article 123(2) EPC) (see section XI(a) above).
 - 2.1.2 Article 123(2) EPC refers to amendments to the European patent application or European patent. Therefore in examining an amendment for compliance with the requirements of this Article it is necessary to consider not only the claims but also other parts of the application or patent, i.e. the description and examples. In the case that an amendment has been made to the claims, this means that with respect to the description and examples it is necessary to consider whether the overall change in the content of the patent (or application) results in the skilled person being presented with information which is not clearly and unambiguously presented in the originally filed

application even when account is taken of matter which is implicit to the person skilled in the art (see T 1239/03 Reasons 3.3.2).

2.2 *The application as filed*

2.2.1 Claim 1 as originally filed reads as follows:

"1. A polyanionic moiety comprising a plurality of metal or metalloid atom - containing non coordinating anionic groups pendant from and chemically bonded to a core component".

Claim 2 as originally filed differs from claim 1 in specifying in the last line "chemically bonded to the core component **via a bridging moiety**" (board's emphasis).

Under the headings "Summary of the invention" and "Detailed description of the preferred embodiments" in the description of the application as filed the nature of the bonding between the anionic groups and the core is disclosed as follows:

- Page 2 lines 24-26:
"The pendant groups may be chemically e.g., covalently bonded to the core directly or via a bridging atom or group".

- Page 18, lines 21-26:
"The anionic portion of a pendant group is chemically bound to the core. By chemically bound, what is meant is a strong bond having greater than 2-3 Kcal and includes covalent, ionic or dative bonds; essentially any bonds other than H-bonds or vander waals [*sic*] forces".

The information provided by the indicated parts of the description is that the bonding between the core and the anionic group is "chemical" and that one type or species of "chemical" bonding is "covalent".

The term "chemically bonded" as employed in the general description of the application as filed therefore encompasses but does not specifically disclose compounds in which the anionic moieties are "covalently" bonded to the core.

- 2.2.2 According to examples 7 and 8 of the application as filed and of the granted patent, monomers (a mixture of divinyl benzene isomers in the case of example 7 and paramethylstyrene in the case of example 8) were reacted with *s*-BuLi and the resulting precipitated polymeric product reacted with tripentafluorophenylboron. A salt of this was formed by reaction with [DMAH][Cl] (wherein "DMAH" = PhMe_2NH^+ as explained at page 29 line 18 of the application as filed). The examples do not discuss or otherwise elucidate - even by implication - the nature of the bonding between the core and the anionic groups in the resulting polyionic compounds. This has not been disputed by the patent proprietor (see section XI.(c) above). Therefore, the information provided by the examples in this respect is no more specific than that of the description, i.e. does not provide any restriction of the type of bonding to a particular species of bonding encompassed by the term "chemical".

- 2.2.3 Therefore the information which the skilled person can derive from the application as filed is that the bonding in the compounds disclosed, including those of examples 7 and 8 is defined as "chemical", and that

this definition encompasses *inter alia* compounds in which the anionic moieties are "covalently" bonded to the core. There is however no explicit disclosure of such compounds in which the anionic moieties are covalently bonded to the core - either in the general part of the description or in the examples.

2.3 *The patent as amended according to the main request*

2.3.1 As a consequence of the amendment of the claims during opposition proceedings to replace the generic term "chemically" by the specific term "covalently" the information content of the general part of the description is changed compared to the information content of the application as filed (see section 2.2.1 above). The bonding between the core and the anionic groups in the activated catalyst compositions is no longer defined generically as "chemical" but is now more narrowly and specifically defined as being a species of "chemical", namely "covalent".

2.3.2 With respect to the above cited examples 7 and 8 the consequence of the amendment of the claim to define "covalent" bonding is that the nature of the bonding in the exemplified compounds acquires, when read in the light of the amended claim, specifically "covalent" character whereas in the application as filed the same examples had - due to the wording of the originally filed claim 1 - the generic character "chemical" (see section 2.2.2 above).

2.3.3 The submission of the patent proprietor at the oral proceedings (see section XI(c) above) that it was not necessary to delete any examples as a consequence of

the amendment to the claims would be correct only in the case that the examples - both before and after the amendment - would have been consistently interpreted by the skilled person as relating to compounds in which the bonding was covalent. However as has been stated by the patent proprietor (see section XI(c) above) there is no disclosure or evidence that this is the case (see also T 1239/03 Reasons 3.3.4).

2.3.4 A consequence of the amendment of the claims by replacement of the generic term "chemically bonded" by the specific term "covalently bonded" is thus that the examples of the patent acquire by association information, i.e. that the anionic groups are covalently bonded to the core, which is not - even implicitly - contained by the same examples in the application as filed. Thus there has been a shift in the information provided by the examples in the patent as amended according to the main request compared to that provided by the same examples in the application as filed even though the examples themselves have not been modified (by analogy with T 1239/03 Reasons 3.3.5).

2.3.5 Hence the subject matter of the main request extends beyond the content of the application as filed. This is however contrary to the requirements of Article 123(2) EPC as explained in section 2.1.2 above.

2.3.6 Therefore the main request does not meet the requirements of Article 123(2) EPC.

2.4 The main request is therefore not allowable.

2.5 At the oral proceedings, the appellant (section XI.(e) above) submitted that certain of the arguments concerning the nature of the bonding should properly be dealt with in the discussion of infringement. However since these submissions were made solely in relation to a set of claims which does not meet the requirements of Article 123(2) EPC and therefore is not allowable, they are of no relevance for the present decision and do not need to be considered further.

3. *First auxiliary request.*

3.1 Since claim 1 of the first auxiliary request also contains the term "covalently bonded" (see section III above), the conclusions reached in respect of the main request apply *mutatis mutandis* to the first auxiliary request.

3.2 The first auxiliary request therefore does not meet the requirements of Article 123(2) EPC and for this reason is not allowable.

4. *Second auxiliary request ("Set D")*

The respondent raised no objections against this request in respect of Articles 84 and 123(2) EPC (see sections V and XI(g) above). Nor has the board any such objections of its own.

The decision under appeal did not consider the matters pursuant to Articles 54, 56 and 83 EPC. Therefore the remittal of the case to the opposition division to have these matters examined on the basis of the second

auxiliary request ("Set D"), as requested by the parties, is the appropriate course of action.

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 "Set D" (claims 1-20) filed with the letter dated 27 April 2007.

The Registrar:

The Chairman:

E. Görgmaier

R. Young