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D E C I S I O N
of 23 January 2006

Case Number: W 0023/05 - 3.3.03

Application Number: PCT/EP 2004/001847

Publication Number: WO 2004/078804

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Title of invention:

Catalyst system for the polymerization of olefins

Applicant:

Basell Polyolefine GmbH

Opponent:

-

Headword:

-

Relevant legal provisions:

PCT Art. 17(3) (a)

PCT R. 13.1, 13.2, 40.1, 40.2(c)

Keyword:

-

Decisions cited:

G 0001/89

Catchword:

-



Case Number: W 0023/05 - 3.3.03

International Application No. PCT/EP 2004/001847

D E C I S I O N
of the Technical Board of Appeal 3.3.03
of 23 January 2006

Applicant: Basell Polyolefine GmbH
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Representative: Colucci Guisepppe
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Intellectual Property
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Decision under appeal: Protest according to Rule 40.2(c) of the Patent Cooperation Treaty made by the applicants against the invitation (payment of additional fees) of the European Patent Office (International Searching Authority) dated 7 July 2004.

Composition of the Board:

Chairman: R. Young
Members: C. Idez
B. Günzel

Summary of Facts and Submissions

I. International application PCT/EP2004/001847 entitled "Catalyst system for the polymerization of olefins" comprising 24 claims was filed on 24 February 2004.

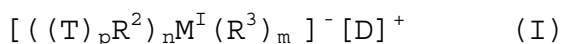
II. Independent Claims 1, 8, 11, 12 and 13 of the application as filed read as follows:

"1. A catalyst component obtainable by contacting:

(a) a solid Lewis acid of formula MR^1_a wherein M is a metal of group 1-12 of the Periodic Table of the Elements; R^1 is a fluorine, chlorine, bromine or iodine atom; and a is equal to the valence of the metal M;

with

(b) at least one ionic compound of formula (I)



wherein:

M^I is an element belonging to group 13 of the Periodic Table of the Elements;

R^3 , equal to or different from each other, are halogen atoms, halogenated C_6 - C_{20} aryl and halogenated C_7 - C_{20} alkylaryl groups; two R^3 groups can also form with M^I a condensed ring;

R^2 , equal to or different from each other, is a linear or branched, saturated or unsaturated C_1 - C_{40} -alkyl, C_3 - C_{40} -cycloalkyl, C_6 - C_{40} -aryl, C_7 - C_{40} -alkylaryl, or C_7 - C_{40} -arylalkyl radical, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements;

the radical R^2 is substituted with p T groups, wherein T is a Lewis base in its neutral form;

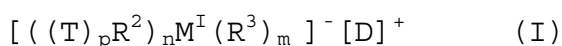
n ranges from 1 to 4; m ranges from 0 to 3; and $m+n=4$;

p ranges from 1 to 10; preferably from 1 to 5; more preferably p is 1, 2 or 3, and $[D]^+$ is a monovalent cation.

8. A catalyst system obtainable by contacting:

(a) a solid Lewis acid of formula MR^1_a wherein M is a metal of group 1-12 of the Periodic Table of the Elements; R^1 is a fluorine, chlorine, bromine or iodine atom; and a is equal to the valence of the metal M; with

(b) at least one ionic compound of formula (I)



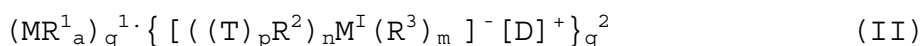
(c) at least a transition metal organometallic compound; and optionally

(d) an organo aluminum compound;

wherein T, R^2 , M^I , R^3 , D, p, n, and m have the same meaning as in claim 1.

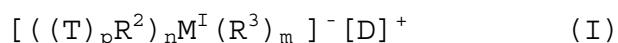
11. A process for the preparation of polymers of alpha-olefins comprising contacting one or more alpha-olefins under polymerization conditions in the presence of a catalyst system of claim 8.

12. An adduct of formula (II):



wherein M, R^1 , a, T, R^2 , M^I , R^3 , D, p, n, and m have the same meaning as in claim 1 and the ratio q^1/q^2 is comprised between 5 and 500.

13. An ionic compound of formula (I)



wherein T, R², M^I, R³, D, p, n, and m have the same meaning as in claim 1."

Claims 2 to 7, 9 to 10 and 14 were dependent claims.

III. On 7 July 2004 the European Patent Office (EPO), acting as International Searching Authority (ISA), in compliance with Article 17(3)a) PCT and Rule 40.1 PCT issued an "Invitation to pay Additional Fees" (hereinafter "Invitation") stating that the application contravened the requirements of unity of invention according to Rule 13 PCT and inviting the Applicant to pay, within a time limit of 30 days, 2 additional search fees.

IV. This "Invitation" resulted from the EPO/ISA's conclusion that the general concept underlying the claimed subject-matter, i.e. the use of catalytic compositions for olefin polymerization comprising an ionic component according to Claim 13 (referred below as "feature 1") was known from the document US-A-5 834 393 (hereinafter referred to as D1). According to the "Invitation" the problem arising from the production and the use of these compositions relating to the production of these copolymers could be solved in three ways, which were linked by "feature 1" mentioned above as same or corresponding feature. In the light of D1, there was, however, no single general inventive concept (Rule 13.1 PCT) and no demonstrated same or corresponding special technical feature (Rule 13.2 PCT) linking the following groups of claims:

Group I: The subject-matter of Claims 1-10, 12;

Group II: the subject-matter of Claim 11; and

Group III: the subject-matter of Claims 13-14.

- V. On 19 July 2004 the Applicant paid under protest these two additional search fees and simultaneously requested reimbursement of these fees.

In its letter dated 19 July 2004 announcing the aforementioned payment the Applicant argued essentially as follows:

(a) Annex B of the Administrative Instructions under the Patent Cooperation Treaty (as in force from March 2001) provided instructions for the interpretation of the principles of Rule 13.2 PCT and set out that unity of invention was met for the case that there was "in addition to an independent claim for a given product, an independent claim for a process specially adapted for the manufacture of the said product, and an independent claim for a use of the said product" (cf. page 50, point (e), item (i)).

(b) Thus, the unity between Claims 1 to 10, 12 which related to a given product and Claim 11 which related to the use of said product could not be questioned.

(c) Claims 13 and 14 were directed to an intermediate for obtaining the catalyst component of Claims 1-10 and 12. According to item (g)(ii) of Annex B of the Administrative Instructions under the Patent Cooperation Treaty (page 51) "unity of invention shall be considered to be present in the context of intermediate and final products where the following two conditions are fulfilled:

(A) the intermediate and final products have the same essential structural element, in that:

(1) the basic chemical structures of the intermediate and the final products are the same, or

(2) the chemical structures of the two products are technically closely interrelated, the intermediate incorporating an essential structural element into the final product, and

(B) the intermediate and final products are technically interrelated, this meaning that the final product is manufactured directly from the intermediate or is separated from it by a small number of intermediates all containing the same essential structural element."

(d) It was however evident that the compounds of Claims 13 and 14 met these requirements.

(e) Even if the compounds of formula (I) might be not novel over D1, this would influence the novelty of Claims 13 to 14 but not the unity of invention given by the relationship indicated above, which remained valid.

(f) Novelty was a fact which should be discussed during the examination procedure.

(g) According to the decision G 1/89 (OJ EPO, 1991, 155; Reasons point 8.2), while the ISA might consider the request of additional fees, this should be done only in clear cases. In particular, in view of the fact that such consideration under the PCT was being made without the applicant having had an opportunity to comment, the ISA should exercise restraint in the assessment of novelty and inventive step and in border-line cases preferably refrain from considering an application as

not complying with the requirement of unity of invention on the ground of lack of novelty or inventive step.

VI. On 20 January 2005 the Review Panel of EPO/ISA issued a "Notification regarding Review of Justification for Invitation to pay Additional Search Fees" (hereinafter "Review Notification"), in which the Applicant was invited to pay a protest fee within a time limit of one month.

In paragraph 1 of the "Review Notification", the Applicant was told that after review of the protest the two additional search fees should not be reimbursed.

The position of the Review Panel (cf. paragraph 2.3.3 of the Review Notification) can be summarized as follows:

(i) In the light of D1, there was no single general inventive concept (Rule 13.1 PCT) and no demonstrated same or corresponding special technical feature (Rule 13.2 PCT) linking the following groups of claims:

Group I: The subject-matter of Claims 1-10, 12;

Group II: the subject-matter of Claim 11; and

Group III: the subject-matter of Claims 13-14.

(ii) In view of the PCT Guidelines (as in force from 25 March 2004; page 76, Section 10.09), the arguments of the Applicant in respect of Annex B of the Administrative Instructions under the Patent Cooperation Treaty (as in force from March 2001; page 50, point (e), item (i)) could only be held true

provided the product according to Claim 13 would be novel. This was however not the case.

(iii) From Section 10.05 on page 75 of the PCT Guidelines it was clear that decisions concerning novelty and lack of unity at the search stage rested with the ISA. Thus, D1 must have relevance with respect to lack of unity.

(iv) The present case was indeed a clear case. Thus, the protest of the Applicant was not justified.

VII. On 18 February 2005 the Applicant paid the protest fee requested in the "Review Notification". In its letter dated 18 February 2005 announcing the afore-mentioned payment the Applicant submitted the following additional comments:

(i) The general inventive concept underlying the present application was the use of the catalytic composition for olefin polymerization comprising the ionic compound of Claim 13 and a metal halide as stated in Claim 1.

(ii) This concept was not known from D1. Claims 1 to 12 were considered as novel by the Examiner himself in the written opinion.

(iii) If one would have followed the reasoning of the Examiner, a possibility to re-establish the unity of invention could have been to limit the definition of T in the definition of the ionic compound of Claim 13.

VIII. The Applicant requested the reimbursement of the additional search fees and of the protest fee which had been paid.

Reasons for the Decision

1. The protest is admissible.
2. As can be deduced from the description, the aim of the present application is the preparation of a heterogeneous catalyst component containing a compound of an element of group 13 of the Periodic Table of the Elements for the polymerization of olefins which can be tethered at the surface of a carrier in order to avoid drawbacks associated with adsorption, such as the fouling of the polymerization reactor (page 1, lines 2-5, 10-14 and 30-32).
3. This problem is solved, according to the application, by using a catalyst component obtainable by contacting:
 - (a) a solid Lewis acid of formula MR^1_a wherein M is a metal of group 1-12 of the Periodic Table of the Elements; R^1 is a fluorine, chlorine, bromine or iodine atom; and a is equal to the valence of the metal M; with
 - (b) at least one ionic compound of formula (I)
$$[(T)_p R^2)_n M^I (R^3)_m]^- [D]^+ \quad (I)$$
wherein:
 M^I is an element belonging to group 13 of the Periodic Table of the Elements;
 R^3 , equal to or different from each other, are halogen atoms, halogenated C_6-C_{20} aryl and halogenated C_7-C_{20}

alkylaryl groups; two R^3 groups can also form with M^I a condensed ring;

R^2 , equal to or different from each other, is a linear or branched, saturated or unsaturated C_1 - C_{40} -alkyl, C_3 - C_{40} -cycloalkyl, C_6 - C_{40} -aryl, C_7 - C_{40} -alkylaryl, or C_7 - C_{40} -arylalkyl radical, optionally containing one or more heteroatoms belonging to groups 13-17 of the Periodic Table of the Elements;

the radical R^2 is substituted with p T groups, wherein T is a Lewis base in its neutral form;

n ranges from 1 to 4; m ranges from 0 to 3; and $m+n=4$; p ranges from 1 to 10; preferably from 1 to 5; more preferably p is 1, 2 or 3, and $[D]^+$ is a monovalent cation (page 2, lines 1-20).

4. While, as indicated above in Section II, the present application comprises 5 independent claims, the claims should have been grouped, in the Board's view, in the following manner:

Group I: Claims 1 to 7, which refer to the specific catalyst component, and Claim 12 which refers to adducts corresponding to the specific catalyst component;

Group II: Claims 8 to 10 which relate to a catalyst system obtainable from the specific catalyst component;

Group III: Claim 11 which refers to process for polymerizing olefin in the presence of the catalyst system according to Claim 8; and

- Group IV: Claims 13 and 14 which refer to an ionic compound which is an intermediate in the manufacture of the specific catalyst component.
5. In that context, it is, in the Board's view, evident that the subject-matter of Group I is conceptually linked to those of Groups II and III by the catalyst component specified in Claim 1, and that the same conclusion applies to the subject-matter of Groups I and IV,
- (i) since the intermediate incorporates an essential structural element (i.e. Formula (I)) into the specific catalyst component; and
- (ii) since the specific catalyst component is manufactured directly from the intermediate.
6. Thus, in contrast to the view expressed by the Review Panel in the Review Notification, the Board comes to the conclusion that it is not the ionic compound according to Claim 13, but the specific catalyst component, which would qualify as common unifying "special technical feature" within the meaning of Rule 13.2. PCT, provided this common concept is novel and has an inventive character.
7. Under Rule 40.2(c) PCT the Board only has to examine whether, considering the reasons given by the ISA and the submissions made in support of the protest, retaining additional fees was justified. This means that the Board cannot therefore investigate ex officio whether an objection of lack of unity would have been justified for reasons other than those given.

8. While it has been considered by the Review Panel in the "Review Notification" that document D1 anticipated the subject-matter of Claim 13, the Board notes that it has not been argued by the Review Panel, either that D1 was a novelty destroying document for the subject-matter of Claim 1 or that it challenged the inventive step of the subject-matter of that claim. Thus, the Board can only conclude that the Review Panel had no objection concerning the novelty and the inventive character of the specific catalyst component.

9. In this connection, even if it might be true that some intermediates falling under the formula (I) according to Claim 13 of the present application, could have been known, as submitted by the Review Panel, from document D1, this could have for its consequence the subsequent raising of an objection of lack of novelty in the course of the examination proceedings, on which the Applicant would have the opportunity to comment, but in no case the charging of additional search fees.

10. This is because, as indicated in the PCT Guidelines referred to by the Review Panel (cf. page 79; point 10.18(c)), unity of invention may also be considered to be present between an intermediate having a known structure (here ionic compound) and a final product (here catalyst component) the structure of which is not known (as admitted by the Review Panel).

11. Thus, under these circumstances, the Board can only come to the conclusion that the reasons given in the "Invitation" do not warrant the proposed lack of unity objection and that the subject-matter of Claims 1 to 7,

and 12 (Group I), of Claims 8 to 10 (Group II), of Claim 11 (Group III), and of Claims 13 to 14 (Group IV) must be considered as so linked as to form a single general inventive concept within the meaning of Rule 13.1 PCT.

12. It thus follows from the above that the Applicant's protest against the payment of two additional search fees is therefore justified.

Order

For these reasons it is decided that:

The refund of the two additional search fees and the protest fee is ordered.

The Registrar:

The Chairman:

C. Eickhoff

R. Young