Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 25 February 2022

Case Number: T 1913/18 - 3.3.03

Application Number: 04781351.4

Publication Number: 1668049

IPC: C08F110/02, C08F2/34

Language of the proceedings: EN

Title of invention:
CATALYST COMPOSITION FOR ETHYLENE POLYMERIZATION

Patent Proprietor:
Dow Global Technologies LLC

Opponent:
Basell Poliolefine Italia S.r.l.

Relevant legal provisions:
RPBA Art. 12(2), 12(4)
RPBA 2020 Art. 13(2)
EPC Art. 56

Keyword:

Late-filed evidence - admitted (no)
Inventive step - Main, first and second auxiliary requests (no)
- Fourth auxiliary request (no)
Admittance - Third auxiliary request (no)
Admittance - Fifth auxiliary request (no)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1913/18 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 25 February 2022

Appellant: (Opponent)	Basell Poliolefine Italia S.r.l. Via Pontaccio 10 20121 Milano (IT)
Representative:	LyondellBasell c/o Basell Poliolefine Italia Intellectual Property P.le Donegani 12 44122 Ferrara (IT)
Respondent: (Patent Proprietor)	Dow Global Technologies LLC 2040 Dow Center Midland, MI 48674 (US)
Representative:	Beck Greener LLP Fulwood House 12 Fulwood Place London WC1V 6HR (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 05 June 2018 concerning maintenance of the European Patent No. 1668049 in amended form.**

Composition of the Board:

Chairman	D. Semino
Members:	D. Marquis
	W. Ungler

Summary of Facts and Submissions

I. This decision concerns the appeal filed by the opponent against the decision of the opposition division posted on 31 May 2018 and concerning European patent No. 1 668 049 that the main request submitted with letter of 12 July 2016 met the requirements of the EPC.

II. The European patent was opposed on the grounds of Article 100(a) EPC (novelty and inventive step), Article 100(b) EPC as well as Article 100(c) EPC.

III. The following documents were cited among others in opposition:

D4: Samson et al "Gas-Phase Polymerization of Propylene with a Highly Active Ziegler - Natta Catalyst". AIChe Journal, Vol. 45, No. 7, July 1999
D6: Moore "Polypropylene handbook: polymerization, characterization, properties, applications" Ohio: Hanser/ Gardner Publications Inc., 1996, ISBN: 1-56990-208-9
D7: EP 0 560 312 B1
D11: WO 2015/026731
D12: Experimental report by Dr. Linfeng Chen dated 7 March 2017

IV. Claim 1 of the main request read:

"1. A process for the gas phase polymerization of ethylene
comprising contacting ethylene with a catalyst composition comprising
one or more Group 3-10 transition metal containing, Ziegler-Natta, procatalyst compounds;

one or more alkylaluminum cocatalysts; and
one or more polymerization control agents (PCA) of which at least one is an alkyl or aryl ester of an aliphatic or aromatic (poly)carboxylic acid optionally containing one or more substituents comprising a Group 13, 14, 15, or 16 heteroatom,

wherein the polymerization temperature is greater than 85°C and the PCA is present in a PCA:cocatalyst(s) molar ratio of 1:1 to 1:100".

V. In the decision under appeal, the opposition division decided among others that claim 1 of the main request involved an inventive step over document D7 taken as the closest prior art.

VI. The opponent (appellant) lodged an appeal against the above decision.

VII. The patent proprietor (respondent) submitted the first to fifth auxiliary requests with their reply to the statement setting out the grounds of appeal.

Claim 1 of the first auxiliary request differed from claim 1 of the main request in that the polymerization control agents (PCA) were "selected from C_{1-10} alkyl monoether derivatives of C_{1-10} alkyl esters of benzoic acid, C_{1-10} alkyl monoether derivatives of C_{1-10} dialkyl esters of phthalic acid, and C_{1-10} alkyl monoether derivatives of C_{1-10} dialkyl esters of terephthalic acid".

Claim 1 of the second auxiliary request differed from claim 1 of the first auxiliary request in that the procatalyst compounds were "selected from: $TiCl_4$, $TiCl_3$, $Ti(OC_2H_5)_3Cl$, $Ti(OC_2H_5)_2Cl_2$, $Ti(OC_2H_5)_3Cl$,

$Ti(OC_3H_7)Cl_3$, $Ti(OC_3H_7)_2Cl_2$, $Ti(OC_4H_9)Cl_3$, $Ti(OC_4H_9)_2Cl_2$, $TiCl_3 \cdot 1/3AlCl_3$, $Ti(OC_{12}H_{25})Cl_3$, $MgTi(OC_2H_5)_5Cl_1$, $MgTi(OC_2H_5)_4Cl_2$, $MgTi(OC_2H_5)_3Cl_3$, $MgTi(OC_2H_5)_2Cl_4$, $MgTi(OC_2H_5)Cl_5$, $MgCl_2 \cdot TiCl_4$, and mixtures thereof" and the alkylaluminum cocatalyst was "a trialkylaluminum compound containing from 1-10 carbon atoms in each alkyl group".

Claim 1 of the third auxiliary request was formulated as "The use of at least one alkyl or aryl ester of an aliphatic or aromatic (poly)carboxylic acid optionally containing one or more substituents comprising a Group 13, 14, 15, or 16 heteroatom, as a polymerization control agents (PCA) in process for the gas phase polymerization of ethylene, which process comprises […]" followed by the process as defined in claim 1 of the main request.

Claim 1 of the fourth auxiliary request corresponded to claim 1 of the second auxiliary request in which the one or more polymerization control agents (PCA) were "selected from C_{1-10} alkyl monoether derivatives of C_{1-10} alkyl esters of benzoic acid".

Claim 1 of the fifth auxiliary request was formulated as "The use of a C_{1-10} alkyl mono ether derivative of a C_{1-10} alkyl ester of benzoic acid as a polymerization control agents (PCA) in a process for the gas phase polymerization of ethylene, which process comprises " followed by the process as defined in claim 1 of the fourth auxiliary request in which at least one of the one or more polymerization control agents (PCA) was "the said C_{1-10} alkyl monoether derivative of a C_{1-10} alkyl ester of benzoic acid".

VIII. The Board summoned the parties to oral proceedings with letter of 29 June 2021 and sent a communication in preparation of the oral proceedings thereafter.

IX. With letter of 25 January 2022 the respondent filed an Experimental Report dated 21 January 2022 (D15).

X. Oral proceedings took place by videoconference on 25 February 2022.

XI. The appellant's submissions were essentially as follows:

Admittance D15

- Document D15 was filed late into the proceedings. It was not filed in reaction to the communication of the Board and there was no exceptional circumstances that justified the admittance of that document. D15 was not to be admitted into the proceedings.

Inventive step starting from D7 - Main request

- Operative claim 1 differed from Example 1 of D7 as closest prior art in i) the polymerization temperature, ii) the polymerization control agent PCA and iii) the molar ratio of PCA to cocatalyst(s).

- The patent in suit did not show the presence of an effect with regard to any of these distinguishing features. The examples of the patent were conducted in the slurry, a polymerization that differed significantly from the gas phase polymerization according to operative claim 1. The burden of proof

concerning the examples of the patent in suit lied with the patent proprietor only. The problem was the provision of an alternative process.

- D7 itself taught polymerization temperatures of 50-120°C. D8 taught polymerization temperatures of 30-100°C, the use of a polymerization aid that could be ethyl ethoxybenzoate, the product used in the patent in suit, and a molar ratio in a range that contained the one according to operative claim 1. Neither D7 nor D8 taught away from operating the reactor at temperatures above 85°C. Operative claim 1 lacked therefore an inventive step over D7 in combination with D8.

Inventive step starting from D7 - First and second auxiliary requests

- The arguments of inventive step provided for the main request also applied to the first and second auxiliary requests.

Admittance - Third auxiliary request

- The third auxiliary request was filed late, without justification, and should not be admitted into the proceedings.

Inventive step starting from D7 - Fourth auxiliary request

- The arguments of inventive step provided for the main request also applied to the fourth auxiliary request.

Admittance – Fifth auxiliary request

- The arguments on admittance provided for the third auxiliary request also applied to the fifth auxiliary request.

XII. The respondent's submissions were essentially as follows:

Admittance D15

- The experimental evidence contained in D15 was filed in reaction to the Board's communication. Although no new element had been raised by the Board, D15 addressed the question of the relevance of the examples of the patent in suit that had been carried out in slurry rather than in the gas phase as required in operative claim 1. D15 supported the same line of arguments made by the respondent throughout the opposition proceedings which was not contested by the opposition division. D15 was therefore to be admitted into the proceedings.

Inventive step starting from D7 - Main request

- Claim 1 of the main request differed from example 1 of D7 as the closest prior art in i) the polymerization temperature beings greater than 85°C, ii) the polymerization control agent (PCA) and iii) the molar ratio of PCA to cocatalyst(s) of 1:1 to 1:100.

- The examples of the patent in suit showed that when the temperature of the polymerization process was greater than 85°C, the PCA according to operative claim 1 in the given ratio resulted in a decrease

of the catalyst activity, in a reduction of agglomeration in the reactor and in the elimination of problems which could lead to lack of operation of the reactor. The problem was to decrease the catalyst activity and prevent thermal runaway and the formation of agglomerates whilst operating at high polymerization temperatures.

- The opponent had not provided any evidence of the lack of relevance of the examples of the patent in suit that were carried out in slurry. The opponent had not discharged their burden of proof. The use of slurry polymerization represented a slight modification of the process which was routine in that field and it that had no impact on the meaning of the examples.

- The solution of the problem was the specific PCA in the ratio according to operative claim 1.

- D8 was not relevant since the examples of D8 were carried out at low temperatures and intended to produce low molecular weight polymers. Also, D8 concerned the preparation of propylene prepolymers for the production or propylene ethylene block copolymers. The patent in suit by contrast concerned the preparation of polyethylenes. D8 did not address the problem of the patent in suit and therefore could not motivate the skilled person to use a polymerization control agent as defined in operative claim 1. Even if the problem was an alternative D8 could only be combined with D7 with hindsight. Claim 1 of the main request was therefore inventive over D7.

Inventive step starting from D7 - First and second auxiliary requests

- The arguments of inventive step provided for the main request also applied to the first and second auxiliary requests.

Admittance - Third auxiliary request

- The third auxiliary request clearly addressed the issues raised under inventive step and there had been plenty of time for the opponent to consider this request. The third auxiliary request was to be admitted into the proceedings.

Inventive step starting from D7 - Fourth auxiliary request

- The arguments of inventive step provided for the main request also applied to the fourth auxiliary request.

Admittance – Fifth auxiliary request

- The arguments on admittance provided for the third auxiliary request also applied to the fifth auxiliary request.

XIII. The appellant requested that the decision of the opposition division be set aside and the patent be revoked.

XIV. The respondent requested that the appeal be dismissed (main request) or that the patent be maintained on the basis of any of the first to fifth auxiliary requests

filed with the reply to the statement setting out the grounds of appeal.

Reasons for the Decision

1. Admittance of D15

1.1 Document D15 is an experimental report provided by the respondent with letter of 25 January 2022, after the summons to oral proceedings dated 29 June 2021 and a communication of the Board sent in preparation thereof and one month before the oral proceedings before the Board.

1.2 The respondent submitted that the experimental report was filed in reaction to the communication of the Board, in particular its paragraphs 7.4 and 9.5, addressing the relevance of the examples of the patent. The respondent however acknowledged that D15 was not filed in reaction to a new element introduced by the Board. In fact, it was not disputed that D15 addressed an issue that had already been raised by the appellant in their notice of opposition (passage bridging pages 4 and 5) and that the same issue was raised again in the statement setting out the grounds of appeal (last two paragraphs on page 4 and third full paragraph on page 9).

1.3 D15 therefore should have been filed in reaction to the objection raised by the opponent at the outset of the appeal proceedings at the latest and not after the communication of the Board. The Board cannot identify any exceptional circumstances under Article 13(2) RPBA 2020 that could justify the admittance of D15 at this stage of the proceedings, nor were any such circumstances provided by the respondent.

1.4 D15 is therefore not admitted into the proceedings under Article 13(2) RPBA.

2. Inventive step starting from D7 - Main request

2.1 The decision of the opposition division established that D7 was the closest prior art. D7 deals with the same problem as the patent in suit, namely trying to avoid the formation, or reduce the impact, of hot spots in the polymer bed that are the cause of agglomerate formation (D7, paragraph 8; patent in suit, paragraph 1). Both parties in appeal made their assessment of inventive step from D7. The opposition division also considered that the example on pages 6/7 of D7, in which the polymerization was conducted at a temperature of 85°C (Example 1) was the most relevant starting point (Section 8.2.8 of the contested decision). That starting point is not contested in appeal and the Board has no reason to depart from this.

2.2 The parties also acknowledged that operative claim 1 differed from example 1 of D7 in that i) the polymerization temperature was greater than 85°C, ii) a PCA in the form of an alkyl or aryl ester of an aliphatic or aromatic (poly)carboxylic acid optionally containing one or more substituents comprising a Group 13, 14, 15, or 16 heteroatom was used and iii) a molar ratio of PCA to cocatalyst(s) of 1:1 to 1:100 was used. The Board agrees also to this.

2.3 The respondent argued that the examples of the patent in suit showed that when the temperature of the polymerization process was greater than 85°C, the catalyst system according to operative claim 1 resulted in a decrease of the catalyst activity, in a reduction

of agglomeration in the reactor and in the elimination of problems which could lead to lack of operation of the reactor. On that basis the respondent formulated the problem as providing a process for the polymerization of ethylene that decreased the catalyst activity and prevented thermal runaway and the formation of agglomerates whilst operating at high polymerization temperatures.

2.4 The main points in dispute between the parties relevant for the formulation of the technical problem were whether the examples of the patent in suit, which described a slurry polymerization, were relevant to operative claim 1 which was limited to a gas phase polymerization process and whether these examples could establish the presence of an effect over the gas phase polymerization of example 1 of D7 chosen as starting point.

2.5 The appellant argued that a skilled person could not extrapolate results of a polymerization carried out in slurry to a gas phase polymerization. D4 was submitted in support of that argument. D4 is an academic publication addressing the comparison of gas phase polymerizations and liquid phase polymerization of propylene. D4 teaches that gas phase polymerizations and liquid phase polymerizations are different processes, especially when it comes to reaction rates, the build-up of runaway and the catalyst deactivation above a given polymerization temperature (Abstract and conclusion of D4). In that regard the Board finds that the teaching of D4 establishes that there are credible, serious doubts as to whether the build-up of runaway and agglomerates observed during a slurry polymerization at a given temperature can be

extrapolated to a gas phase polymerization.

2.6 The respondent argued that it was entirely routine, when investigating polyolefin chemistry, to carry out feasibility experiments on a laboratory scale conducted using slightly different experimental conditions (for example using slurry polymerisation, rather than gas phase polymerisation), rather than using a production plant, because of the huge costs involved to set up even small pilot plants. It was also known that results obtained from such laboratory experiments could be extrapolated to the real world of gas phase production plants (reply to the statement setting out the grounds of appeal, page 2, penultimate paragraph to page 3, fourth full paragraph). The respondent cited D6, D11 and D12 in support of their argument and referred to the contested decision as to their content.

2.7 The Board cannot follow the position of the respondent as D6, D11 and D12 are not found to be relevant to the question posed. D6, D11 and D12 are discussed in sections 5.6, 5.7 and 8.2.13 of the contested decision but none of these passages explicitly concerns the use of slurry polymerization as a representation of gas phase polymerizations.

2.7.1 D6 is about the interaction between trialkylaluminium cocatalysts and aromatic monoesters such as ethylbenzoate but there is not reference to slurry polymerization in that document.

2.7.2 D11 was published on 26 February 2015 well after the priority date of the patent in suit (23 September 2003) and for that reason the opposition division did not consider the teaching of D11. The Board sees no

apparent reason to do otherwise.

2.7.3 D12 is a supplementary experimental report by the respondent concerning the effect of different polymerization control agents on the polymerization reaction. D12 does not address the use of slurry polymerization as feasibility experiments for gas phase polymerizations.

2.8 It is thus not apparent from the arguments of the respondent nor from the contested decision with regard to D6, D11 and D12 how these documents showed that slurry polymerization was routinely used as a representation of gas phase polymerization. Under these circumstances, the Board finds that the argument of the respondent is not supported by evidence.

2.9 The respondent also argued that the burden of proof lied with the appellant to substantiate its allegation that the slurry phase examples could not be extrapolated to the gas phase.

2.10 Also this position of the respondent cannot be followed by the Board as the burden of proving that the claimed process leads to the advantageous effects mentioned in the patent in suit rests with the patentee and not with the opponent (Case Law of the Boards of Appeal, 9th Edition, July 2019, III.G.5.1.2b). In the absence of any corroborating evidence that these advantageous effects were obtained, the alleged effects are not to be taken into account when assessing inventive step.

2.11 In the present case, the respondent has not established that the examples of the patent in suit were representative of operative claim 1 and of D7 since these examples were carried out in the slurry whilst

operative claim 1 and example 1 of D7 chosen as closest prior art concerned gas phase polymerizations. The respondent in that regard did not discharge their burden of proof. There is therefore no basis for the formulation of the problem as proposed by the respondent. Under these circumstances, the problem that can be formulated is the provision of a further gas phase polymerization process of ethylene.

2.12 Example 1 of D7 concerns a gas phase polymerization process of ethylene at a temperature of 85°C. D7 further teaches in paragraph 30 that the temperature of the processes it discloses is generally comprised between 50 and 120°C. The general range of temperatures according to D7 therefore overlaps significantly with the range defined in operative claim 1 (greater than 85°C). A skilled person starting from the process of example 1 of D7, especially since its temperature (85°C) is just outside the lower value defining the range of operative claim 1, would have considered operating the process at a temperature above 85°C with the same expectation of success in the polymerization of ethylene when simply aiming at a further process and under consideration of document D7 alone.

2.13 D7 does not disclose the use of polymerization control agents during polymerization which are however available from D8. D8 concerns the preparation of propylene-α-olefin block copolymers by subjecting a propylene polymer obtained without deactivating a catalyst, to polymerization with other α-olefin or to copolymerization of propylene and other α-olefin in a gas phase without leading to adhesion of polymer particles to one another or to the inner wall of the reactor or clogging of the pipes or agglomeration in a silo or hopper in the subsequent steps (page 2, lines

1-6). Ethylene is one of the α-olefins that can be used in the copolymerization process according to D8 (page 4, line 24; page 5, line 18) and the presence of a propylene copolymer during the copolymerization is not excluded from the scope of D7 nor of that of the patent in suit. In that regard the teaching of D8 is relevant to D7 and the patent in suit.

2.14 D8 teaches the presence of an aromatic carboxylic acid ester as polymerization control agent PCA in a molar ratio PCA/cocatalyst of 1 to 0.0001 (page 5, lines 14-20 and 54-58) that encompasses the range according to operative claim 1 (1:1 to 1:100). Ethyl ethoxybenzoate is one of the PCA taught in D8 (page 5, line 25) and corresponds to the compound disclosed in claim 12 of the main request. The gas phase polymerization of D8 is conducted at temperatures of from 30 to 100°C (page 6, line 14), a range that is compatible with D7 (50-120°C) and also with that of operative claim 1 (greater than 85°C). The use of an aromatic carboxylic acid ester as polymerization control agent in a ratio encompassing that of operative claim 1 as taught in D8 is thus one of the measures the skilled person would take in D7 when aiming at a further process, even more since the use of a PCA in D8 is also taught to reduce adhesion of polymer to the inner wall of the reactor, agglomeration and deterioration of the powder properties of the polymer. Applying that knowledge to example 1 of D7 in the expectation to provide a further gas phase polymerization process of ethylene does therefore not involve an inventive step. Claim 1 of the main request thus does not meet the requirements of Article 56 EPC.

3. Inventive step starting from D7 - First and second auxiliary requests

3.1 With regard to the first auxiliary request the respondent relied on the argumentation provided for the main request and did not provide further arguments specific to the limitation performed in the first auxiliary request. Since D8 teaches a list of PCAs on page 5, lines 21-26 and in particular ethyl etoxybenzoate that falls under the limitation of PCAs in claim 1 of the first auxiliary request, claim 1 of the first auxiliary request lacks inventive step for the same reasons as outlined for claim 1 of the main request.

3.2 With regard to the second auxiliary request the respondent also relied on the argumentation provided for the main request and did not provide further arguments specific to the limitation performed in the second auxiliary request. Claim 1 of the second auxiliary request is further defined, by comparison with claim 1 of the first auxiliary request, by a list of procatalysts and a limitation of the alkylaluminum cocatalyst being a trialkylaluminum compound containing from 1-10 carbon atoms in each alkyl group. The process of example 1 of D7 however already uses triethylaluminum (TEAL) as cocatalyst which is according to the definition of operative claim 1.

3.3 The procatalyst in example 1 of D7 ($Ti(OBu)_4$) is not according to operative claim 1. No effect was shown for the selection of the procatalyst in the list of operative claim 1. Both D1 and D2 teach the use of procatalyst compounds such as titanium tetrachloride (D7: page 4, line 1 and D8: page 3, line 19), which is a procatalyst according to operative claim 1. In that

regard, the use of titanium tetrachloride in the process of example 1 of D7 does not involve an inventive step over D7.

3.4 The definition of the PCA in claim 1 of the second auxiliary request is the same as that used in claim 1 of the first auxiliary request. The reasoning of lack of inventive step with regard to that feature in the first auxiliary request also applies to the second auxiliary request. Claim 1 of the second auxiliary request does not therefore involve an inventive step.

4. Admittance - Third auxiliary request

4.1 The third auxiliary request was submitted with the reply to the statement setting out the grounds of appeal. That request corresponded to the third auxiliary request filed with the reply to the notice of opposition on 12 July 2016. The respondent argued that it should be admitted into the proceedings as it was filed with the clear intention to address issues of inventive step and because the appellant had plenty of time to consider the request.

4.2 The third auxiliary request was introduced on page 6 of the reply to the statement setting out the grounds of appeal. That passage merely describes the amendment made to claim 1 of that request and states that "Auxiliary Request 3 is intended to address the situation that would arise if the Board should find none of the previous requests allowable". The reply to the statement of grounds of appeal contains no further substantiation as to which objection(s) the third auxiliary request was intended to address (objections relating to Articles 100(a), (b) and (c) EPC were initially pursued in appeal) and how the amendments

performed in that request solved these objections.

4.3 Article 12(4) RPBA 2007 which applies to the present case in view of Article 25(2) RPBA 2020 foresees that everything presented by the parties *inter alia* with the reply to the statement of grounds shall be taken into account by the Board if and to the extent it related to the case under appeal and meets the requirements in paragraph (2). In its turn Article 12(2) RPBA 2007 provides that the statement of grounds of appeal and the reply shall contain a party's complete case and that they shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on.

4.4 It is apparent that as far as the third auxiliary request is concerned the reply to the statement setting out the grounds of appeal does not meet the requirements under Article 12(2) RPBA 2007. Under these circumstances, this request is not to be taken into account by the Board under Article 12(4) RPBA 2007.

4.5 The respondent however provided a substantiation for the third auxiliary request in their letter of 25 January 2022. The passage bridging pages 8 and 9 of that letter indicates that the third auxiliary request addressed the objection of lack of inventive step starting from D7 and that none of the cited references concerned the use now defining operative claim 1.

4.6 These submissions were filed after the communication of the Board of 6 October 2021, one month only before oral proceedings before the Board. The provisions under Article 13(2) RPBA 2020 which apply to the present case

set out that any amendment to a party's appeal case in that situation shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned. The arguments of the respondent relating to the clear intent behind the filing of the third auxiliary request and the time available for consideration of the request by the opponent cannot however constitute exceptional circumstances justifying the admittance of the third auxiliary request into the proceedings at that stage. The third auxiliary request is therefore not admitted into the proceedings.

5. Inventive step starting from D7 - Fourth auxiliary request

5.1 With regard to the fourth auxiliary request the respondent also relied on the argumentation provided for the main request and did not provide further arguments. Claim 1 of the fourth auxiliary request corresponds to claim 1 of the second auxiliary request in which the one or more polymerization control agents (PCA) are further limited to "C_{1-10} alkyl monoether derivatives of C_{1-10} alkyl esters of benzoic acid". That type of PCA however still corresponds to the class of aromatic carboxylic acid ester PCAs comprising ethyl ethoxybenzoate taught on page 5, lines 21-26 of D8. In that regard, the reasoning of lack of inventive step relevant to claim 1 of the second auxiliary request directly applies to claim 1 of the fourth auxiliary request with the consequence that the same conclusion of lack of inventive step also applies.

6. Admittance – Fifth auxiliary request

6.1 The fifth auxiliary request was submitted with the reply to the statement setting out the grounds of appeal. With regard to the admittance of the fifth auxiliary request into the proceedings, the respondent provided the same arguments as for the admittance of the third auxiliary request. The fifth auxiliary request also lacked substantiation in the reply to the statement of grounds of appeal (page 7) and it was only with the letter of 25 January 2022 (pages 9/10) that the respondent provided reasons and submissions as to why that request was filed.

6.2 With regard to its admittance, the situation with the fifth auxiliary request is the same as for the third auxiliary request. The reasoning and conclusion provided for the third auxiliary request under section 4 of the present decision also apply to the fifth auxiliary request with the consequence that the fifth auxiliary request is not admitted into the proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

B. ter Heijden D. Semino

Decision electronically authenticated