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**Datasheet for the decision
of 28 February 2024**

Case Number: T 1672/21 - 3.3.03

Application Number: 13811866.6

Publication Number: 2935365

IPC: C08F210/02, C08F2/00, C07C67/54

Language of the proceedings: EN

Title of invention:

PROCESS FOR COPOLYMERIZING ETHYLENE AND ESTERS OF VINYL
ALCOHOL

Patent Proprietor:

Basell Polyolefine GmbH

Opponents:

Clariant Produkte (Deutschland) GmbH
Lunati, Valerio
Versalis S.p.A.

Relevant legal provisions:

EPC Art. 123(2)

Keyword:

Amendments - intermediate generalisation - allowable (no: all requests)

Decisions cited:

G 0003/89, G 0011/91, G 0002/10



Beschwerdekammern

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Case Number: T 1672/21 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 28 February 2024

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted on
3 August 2021 concerning maintenance of the
European Patent No. 2935365 in amended form.

Composition of the Board:

Chairman D. Semino
Members: O. Dury
W. Ungler

Summary of Facts and Submissions

- I. The appeals by opponents 1 and 3 lie from the interlocutory decision of the opposition division concerning the maintenance of the patent in amended form according to the claims of the main request filed with letter of 7 March 2019 and an adapted description.
- II. The following documents were cited, among others, in that decision:
 - D1: Ullmann's Encyclopedia, 2005, "Polyolefins"
 - D4: European Commission, Reference Document on Best Available Techniques in the Production of Polymers, August 2007
- III. In the decision under appeal the opposition division held, among others, that claim 1 of the main request met the requirements of Article 123(2) EPC. Further considering that none of the other objections raised by the opponents was successful, the patent amended on the basis of the main request was held to meet the requirements of the EPC.
- IV. Each of opponents 1 and 3 (appellants 1 and 2) lodged an appeal against that decision.
- V. With their rejoinder to the statement of grounds of appeal the patent proprietor (respondent) filed four sets of claims as auxiliary requests I to IV.
- VI. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA 2020 was

then issued by the Board.

VII. Oral proceedings were held on 28 February 2024.

VIII. **The final requests of the parties were as follows:**

Appellants 1 and 2 requested that the decision under appeal be set aside and that the patent be revoked.

The respondent requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained in amended form according to any of auxiliary requests I to IV filed with the rejoinder to the statements of grounds of appeal.

Opponent 2, who is party to the proceedings as of right, did not make any submissions or filed any requests during the appeal proceedings

IX. Claim 1 of the **main request** read as follows (additions as compared to claim 1 of the application as filed in **bold**; deletions in ~~striketrough~~):

"1. A process for copolymerizing ethylene and esters of vinyl alcohol in the presence of free radical polymerization initiators at pressures in the range of from 110 MPa to 500 MPa and temperatures in the range of from 100°C to 350°C in a continuously operated polymerization apparatus comprising a polymerization reactor and ~~one or more~~ **at least two sequentially operating** compressors, which compress the monomer mixture fed to the polymerization reactor to the polymerization pressure, **and in which a low-pressure compressor first compresses the monomer mixture to a pressure of from 10 MPa to 50 MPa and a high-pressure compressor then further compresses the monomer mixture**

to the polymerization pressure of from 110 MPa to 500 MPa,

wherein the low-pressure compressor and the high-pressure compressor are multistage compressors and the low-pressure compressor comprises five or six compression stages, whereof two or three are arranged in a booster compressor before adding the fresh gas and two or three are arranged in a primary compressor after adding the fresh gas,

wherein the monomer mixture is compressed by a sequence of compression stages in which the compressed gas mixture is cooled after each compression stage and the fraction of the monomer mixture, which is liquid after this cooling, is separated off, **combined** and returned to the polymerization apparatus in liquid form, and

wherein at least a part of the liquid fractions obtained after compressing the monomer mixture in the respective compression stage to a pressure of from 0.2 MPa to 10 MPa is purified before being returned to the polymerization apparatus."

- X. Claim 1 of each of **auxiliary requests I to IV** corresponded to claim 1 of the main request in which the purification step of the separated liquid fractions specified in the last paragraph of that claim ("wherein at least a part of ... is purified before being returned to the polymerization apparatus") was further defined by additional features.
- XI. The appellants' arguments, in so far as they are pertinent for the present decision, may be derived from the reasons for the decision below. They are

essentially as follows:

Claim 1 of each of the main request and of auxiliary requests I to IV constituted a non-allowable intermediate generalisation of matter disclosed in the application as filed and, for that reason, did not meet the requirements of Article 123(2) EPC.

XII. The respondent's arguments, in so far as they are pertinent for the present decision, may be derived from the reasons for the decision below. They are essentially as follows:

The features disclosed in the application as filed that were alleged by the appellants to be missing in claim 1 of the main request belonged to the recycling part of the process being defined. These features were very common in the art and implicitly present in a process as defined in claim 1 of the main request. For that reason, the objection pursuant to Article 123(2) EPC that was raised by the appellants against claim 1 of each of the main request and auxiliary requests I to IV should fail.

Reasons for the Decision

Main request

1. Article 123(2) EPC
 - 1.1 For the assessment of Article 123(2) EPC, the question to be answered is whether or not the subject-matter of an amended claim extends beyond the content of the

application as filed, i.e. whether after the amendments made the skilled person is presented with new technical information (see G 2/10, OJ EPO 2012, 376, point 4.5.1 of the Reasons and Case Law of the Boards of Appeal of the EPO, 10th edition, 2022, II.E.1.1). To be allowable the amendments can only be made within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the documents as filed (G 3/89, OJ 1993, 117; G 11/91, OJ 1993, 125).

- 1.2 The sole objection raised by the appellants is that the amendment made in claim 1 of the main request with the addition of the wording:

"the low-pressure compressor comprises five or six compression stages, whereof two or three are arranged in a booster compressor before adding the fresh gas and two or three are arranged in a primary compressor after adding the fresh gas,"

(hereinafter referred to as "feature (J)" as identified on page 6 of the decision under appeal) was not allowable pursuant to Article 123(2) EPC because it constituted an intermediate generalisation of the disclosure at page 7, lines 30-33 of the application as filed.

- 1.3 In that respect, it was undisputed that a literal basis for feature (J) is given in the sentence on page 7, lines 30-33 of the application as filed. Said sentence makes part of the paragraph at page 7, lines 21-33 which may be subdivided in three parts as follows:

- The first part is the passage at lines 21 to 26, which refers to the description of the polymerisation apparatus according to the present invention and reads as follows:

"Commonly the polymerization apparatus comprises, beside the polymerization reactor, a high-pressure gas recycle line for recycling gas separated in a high-pressure separator from the reaction mixture and a low-pressure gas recycle line for recycling gas separated in a low-pressure separator from the reaction mixture. The gas recycled in the high-pressure gas recycle line is then fed to the high-pressure compressor and the gas recycled in the low-pressure gas recycle line is fed to the low-pressure compressor, preferably to the foremost of the stages.";

- The second part is the sentence at lines 26-30, which is directed to a first preferred embodiment of the first part indicated above;
- The third part is the sentence at lines 31-33, which is directed to a second preferred embodiment of the first part indicated above. It reads as follows:

"Preferably, the low-pressure compressor, i.e. the combination of booster compressor and primary compressor, comprises five or six compression stages, two or three in the booster compressor before adding the fresh gas and two or three in the primary compressor after adding the fresh gas".

Considering that disclosure, the Board shares the parties' view that said passage of the application

as filed provides a literal basis for the above indicated feature (J).

In view of the above, it is further agreed with the appellants that feature (J) is disclosed in the paragraph of page 7, lines 21-33 as a preferred embodiment of the polymer apparatus indicated in the first part of that paragraph (see the first term of the above indicated third part of the paragraph at page 7, lines 21-33: "Preferably"), which means that said feature (J) is disclosed in the application as filed in combination with all the features defining the polymerisation apparatus according to page 7, lines 21-26 of the application as filed (first part of the paragraph at page 7, lines 21-33). Under these circumstances, considering that claim 1 of the main request does not comprise any reference to some of the features of the polymerisation apparatus indicated in the first part of the paragraph at page 7, lines 21-33 (high-pressure and low-pressure gas recycle lines; high-pressure and low-pressure separators), it has to be assessed if feature (J) constitutes a non-allowable intermediate generalisation of the disclosure at page 7, lines 31-33 of the application as filed, as objected to by the appellants.

- 1.4 In that regard, the respondent shared the view of the opposition division that the features of the polymerisation apparatus indicated at page 7, lines 21-26 (first part of the paragraph at page 7, lines 21-33) belonged to common general knowledge and made, therefore, implicitly part of claim 1 of the main request (decision: page 8, lines 1-7; rejoinder: page 4, fifth paragraph; letter of 1 February 2024: section 1, penultimate paragraph).

- 1.4.1 According to the Boards' established case law (Case Law, *supra*, II.E.1.3.3), it may be considered as an implicit disclosure of the application as filed what a skilled person would consider to be **necessarily implied** by the patent application as a whole. This means that the term "implicit disclosure" relates solely to matter which is a clear and unambiguous consequence of what is explicitly mentioned.
- 1.4.2 In that respect, the Board is satisfied that the process defined according to claim 1 of the main request would be held, by virtue of the presence of a booster compressor located before the input of fresh gas as defined in feature (J), to implicitly - but directly and unambiguously - comprise a low-pressure gas recycle line as defined at page 7, lines 21-26 of the application as filed.
- 1.4.3 However, in the Board's view, the wording of claim 1 of the main request as a whole does not reflect the mandatory presence in the apparatus of the other elements specified at page 7, lines 21-26 (high-pressure recycle line; separators; hereinafter referred to as the "missing features"). In that regard, there is no evidence on file showing that a process as defined in claim 1 of the main request must comprise said missing features. In particular, the appellants' view that a process according to claim 1 of the main request could be carried out without these missing features (appellant 2's statement of grounds of appeal: page 5, last paragraph; the argument was further pursued, also by appellant 1, at the oral proceedings before the Board) was not contradicted by the respondent. Therefore, at least some of the features defining the polymerisation apparatus at page 7, lines 21-26 of the application as filed cannot be held to be necessarily

implied by the definition of the process according to claim 1 of the main request.

- 1.4.4 The fact that these missing features are indicated in the application as filed to be common or normal in the art (application as filed: page 7, line 21; page 1, lines 17-28), as put forward by the respondent, does not affect the conclusion reached above at point 1.4.3 above since the indication that such features are commonly used or are part of normal set-ups does not exclude that other processes encompassed by the definition of claim 1 of the main request may be carried out although they do not comprise these (missing) features, i.e. does not mean that they are necessarily implied.
- 1.4.5 The same conclusion is also valid regarding the respondent's arguments that very general disclosures such as D1 (text book: see in particular figure 14 and section 1.5.1.3) or D4 (figure 3.7) corroborated the indication of the application as filed that these (missing) features were common in the art for a process as defined in claim 1 of the main request (letter of 1 February 2024: third page, end of first full paragraph; see also description of D1 in the rejoinder: page 12, third paragraph and page 13, last paragraph). A distinction must be made between what is common or even very common and what is necessarily implied.
- 1.4.6 It is correct that the appellants have provided no evidence, in particular in appeal, to refute the finding of the opposition division that all the features specified at page 7, lines 21-26 of the application as filed (first part of the paragraph at page 7, lines 21-33) were implicitly part of the process defined in claim 1 of the main request

(decision under appeal: page 8, first to eleventh lines). In particular, the appellants have not shown that any of the processes disclosed in the prior art documents cited in the proceedings did not comprise all these elements.

a) However, as indicated in point 1.1. above, the assessment of Article 123(2) EPC has to be made on the basis of the disclosure of the application as filed as a whole, optionally in combination with common general knowledge. For that reason, the absence of supporting evidence of a process according to claim 1 of the main request that does not contain all the features defining the polymerisation apparatus according to page 7, lines 21-26 of the application as filed does not justify that the Board comes to a different conclusion than to consider that all the elements specified at page 7, lines 21-26 of the application as filed were not shown to be necessarily implied, on the basis of the disclosure of the application as filed and common general knowledge, by the definition of the process according to claim 1 of the main request.

b) In that regard, the Board further considers that the burden of proof to demonstrate that features that are not explicitly indicated in a claim may nevertheless be held to be implicitly, but directly and unambiguously, present therein is primarily on the side of the patent proprietor, here the respondent. Therefore, in the present case, it would have been the duty of the respondent to show that the missing features were mandatorily part of the process defined in claim 1 of the main request.

1.4.7 In their latest written submissions the respondent requested that some arguments put forward by the

appellants in particular regarding Article 123(2) EPC be not admitted because they were late-filed (see letter of 1 February 2024: section 1, fifth paragraph).

However, as was made clear during the oral proceedings before the Board, the Board is satisfied that all the arguments that were taken into account by the Board to reach the present decision are closely related to the ones put forward in writing by the parties and to the issue at stake from the outset of the appeal proceedings. In particular, it should be mentioned that the points characterised by the respondent in its aforementioned letter (cf. *ibid.*, second page, penultimate paragraph) as "new allegations of facts" concern passages and topics that have been discussed since the beginning of the proceedings and, if at all, merely represent a further development of existing lines of argumentation. Therefore, these arguments did not expand in any way the legal and factual framework of the present case and thus did not constitute a change of case. Thus, there was no legal basis for excluding those submissions from the proceedings.

1.4.8 For these reasons, it cannot be concluded that all the features defining the polymerisation apparatus specified at page 7, lines 21-26 of the application as filed, even upon consideration of common general knowledge, are necessarily implied by the process defined according to claim 1 of the main request. As a consequence, said process constitutes a non-allowable intermediate generalisation which goes beyond the content of the application as filed.

1.5 In view of the above, claim 1 of the main request does not meet the requirements of Article 123(2) EPC and the

main request, as a whole, is not allowable.

Auxiliary requests I to IV

2. Article 123(2) EPC

Claim 1 of each of operative auxiliary requests I to IV is based on claim 1 of the main request, in which one or more additional feature(s) was/were added at the end of the claim. These features, which are all related to the purification step of the separated liquid fractions, do not affect the analysis which has been made for feature (J) with regard to the main request. Therefore, since the main request does not satisfy the requirements of Article 123(2) EPC for the reasons indicated in section 1 above, the same conclusion is bound to be drawn for each of auxiliary requests I to IV. That view was agreed upon by the respondent at the oral proceedings before the Board, whereby neither counter-arguments, nor any different arguments were submitted for the auxiliary requests (as compared to the main request). For these reasons, claim 1 of each of auxiliary requests I to IV does not meet the requirements of Article 123(2) EPC and these requests are therefore not allowable.

3. Since none of the respondent's requests is allowable, the patent is to be revoked.

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:



D. Hampe

D. Semino

Decision electronically authenticated