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**Datasheet for the decision
of 28 October 2022**

Case Number: T 1553/19 - 3.3.03

Application Number: 09748027.1

Publication Number: 2337805

IPC: C08G18/08, C08G18/16,
C08G18/32, C08G18/75, G02B1/04

Language of the proceedings: EN

Title of invention:

POLYMERIZABLE LIQUID COMPOSITION AND PROCESS FOR THE
PRODUCTION OF ORGANIC GLASS STARTING FROM POLYMERIZABLE LIQUID
COMPOSITIONS OF THE POLYURETHANE TYPE

Patent Proprietor:

Mitsui Chemicals, Inc.

Opponent:

Covestro Deutschland AG

Relevant legal provisions:

EPC Art. 54, 56
RPBA 2020 Art. 13(2)

Keyword:

Amendment after summons - exceptional circumstances (no)
Novelty - (main request: no; first auxiliary request: yes)
Inventive step - (first auxiliary request: yes)

Catchword:

The normal rule of claim construction of reading a feature specified in a claim in its broadest technically meaningful sense corresponds to determining the broadest scope encompassed by the subject-matter being claimed according to a technically sensible reading. In the case of a feature defined in a positive manner, which imposes the presence of a specific element, this is effectively achieved by giving to the element in question its broadest technically sensible meaning. However, for a feature defined in a negative manner, which excludes the presence of a specific element, the broadest scope of the claim corresponds to the narrowest (i.e. most limited) technically sensible definition of the element to be excluded. (Reasons, point 5.7)



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 1553/19 - 3.3.03

D E C I S I O N
of Technical Board of Appeal 3.3.03
of 28 October 2022

Appellant: Mitsui Chemicals, Inc.
(Patent Proprietor) 5-2, Higashi-Shimbashi 1-chome
Minato-ku
Tokyo 105-7117 (JP)

Representative: Cosenza, Simona
Barzanò & Zanardo Milano S.p.A.
Via Borgonuovo, 10
20121 Milano (IT)

Respondent: Covestro Deutschland AG
(Opponent) Kaiser-Wilhelm-Allee 60
51373 Leverkusen (DE)

Representative: Roos, Peter
Gille Hrabal
Patentanwälte
Brucknerstrasse 20
40593 Düsseldorf (DE)

Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
26 March 2019 concerning maintenance of the
European Patent No. 2337805 in amended form.**

Composition of the Board:

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

Summary of Facts and Submissions

- I. The appeal of the patent proprietor is against the interlocutory decision of the opposition division regarding maintenance of European patent No. 2 337 805 in amended form according to the claims of the first auxiliary request filed during the oral proceedings before the opposition division and a description adapted thereto.
- II. The following documents were, among others, cited in the decision under appeal:
- D1: US 4,101,529
 - D2: Entry "Metall-organische Verbindungen",
Römpp Lexikon - Chemie, 1998, pages 2616-2617
 - D5: WO 2008/092597 A2
 - D12: DE 35 08 428 A1
 - D17: Entry "organometallic compound", Hawley's
Condensed Chemical Dictionary,
Wiley-Interscience, 2007, page 929
 - D27: Polyurethanes Chemistry and Technology;
Part I. Chemistry; J.H. Saunders and
K.C. Frisch; 1962; pages 210-217
 - D28: Influence of Acids and Bases on Preparation
of Urethane Polymers; H.L. Heiss et al.;
INDUSTRIAL AND ENGINEERING CHEMISTRY;
August 1959; pages 929-934
- III. The decision under appeal was based on the main request filed with letter of 28 April 2016 and on the first auxiliary request filed during the oral proceedings before the opposition division. According to the reasons for the decision, it was among others held that

the subject-matter of claim 1 of the main request was novel over D1 but was anticipated by D5. However, the patent as amended according to the first auxiliary request was held to meet the requirements of the EPC.

- IV. The patent proprietor (appellant) appealed against the above decision and, together with their statement of grounds of appeal, filed a set of claims as main request as well as the following document:

D30: Annex 1, declaration by A. Vecchione, dated
31 July 2019

- V. With letter of 18 December 2020 the appellant filed a set of claims as first auxiliary request as well as the following documents:

D31: Technical data sheet of Vestanat[®]H₁₂MDI

D32: Safety data sheet of Vestanat[®]H₁₂MDI

D33: Technical data sheet of Desmodur W, Bayer AG,
2005

D34: Technical data sheet of Desmodur W, Bayer AG,
2020

It was further indicated therein (page 4, second full paragraph) that the commercial name of the polyisocyanate raw material indicated in D30 was erroneous and should read "Vestanat[®]H₁₂MDI" (and not "Desmodur W" as indicated in D30).

- VI. The parties were summoned to oral proceedings and a communication pursuant to Article 15(1) RPBA 2020 indicating specific issues to be discussed at the oral proceedings was then sent to the parties.

VII. With letter of 12 October 2022 the appellant filed the following document:

D35: Section "Introduction" of "METAL-ORGANIC COMPOUNDS; Advances in Chemistry; Proceedings of the Symposium on Metal-Organic Compounds held in Miami, Florida in April 1957, AMERICAN CHEMICAL SOCIETY, Volume 23, September 1959

VIII. Oral proceedings were held on 28 October 2022 in the absence of the opponent (respondent), as had been announced with letter of 30 August 2022.

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

(a) The appellant requested that the decision of the opposition division be set aside and the patent be maintained in amended form according to the main request filed with the statement of grounds of appeal or, alternatively, on the basis of the first auxiliary request filed with letter of 18 December 2020.

(b) The respondent requested in writing that the appeal be dismissed.

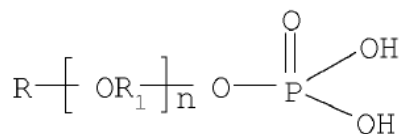
X. Claim 1 of the **main request** read as follows:

"1. Polymerizable liquid compositions of polyurethane type made up of two components (A) and (B), where component (A) contains at least one cycloaliphatic diisocyanate monomer or a mixture of a cycloaliphatic diisocyanate monomer and a prepolymer obtained by reaction, in the presence of an acid phosphate ester catalyst, between said cycloaliphatic diisocyanate monomer and one or more polyols having two or more

hydroxy groups per molecule and a molecular weight comprised between 50 and 2000 g/mole; the second component (B) contains one or more polyols having a molecular weight comprised between 50 and 2000 g/mole and a functionality between 2 and 5; in absence of polyalkoxylated tertiary diamines and metal organic catalysts, said components (A) and (B) being present in weight ratio varying between 1:1 and 2:1; said polymerizable liquid compositions further comprising an acid phosphate ester catalyst".

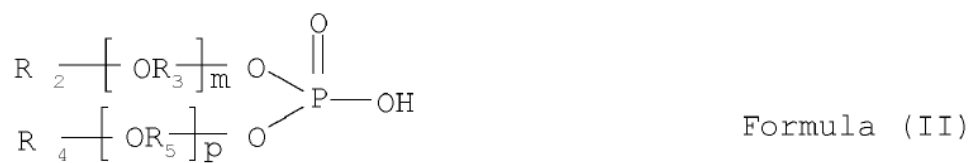
XI. Claim 1 of the **first auxiliary request** differed from claim 1 of the main request in that at the end of the claim the term "said polymerizable liquid compositions further comprising an acid phosphate ester catalyst" was replaced by:

"said polymerizable liquid compositions further comprising from 0.2% to 3% by weight with respect to the total weight of the composition of an acid phosphate ester catalyst selected from monoesters and diesters of phosphoric acid or mixtures thereof, having respectively the following formulae:



Formula (I)

wherein R is an alkyl group with from 1 to 10 carbon atoms, R₁ is an alkenyl group having from 1 to 3 carbon atoms and n can be 0, 1 or 2;



wherein R₂ and R₄ are alkyl groups having from 1 to 10 carbon atoms, R₃ and R₅ are alkenyl groups having from 1 to 3 carbon atoms and m and p can be 0, 1 or 2."

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

- (a) D35 should be admitted into the proceedings;
- (b) The subject-matter of claim 1 of the main request was novel over both D1 and D5;
- (c) The subject-matter of claim 1 of the first auxiliary request was inventive in view of document D5 taken as the closest prior art, even taking the further cited prior art documents into account.

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

- (a) The subject-matter of claim 1 of the main request was not novel over each of D1 and D5;
- (b) The subject-matter of claim 1 of the main request was not inventive in view of document D5 taken as the closest prior art in the light of D27, D28 and D12.

Reasons for the Decision

Main request

1. It was common grounds that the main request filed with the statement of grounds of appeal corresponded to the main request on which the decision under appeal is based. The Board has no reason to deviate from that view.
2. The respondent's objections pursued in appeal against the main request are directed to novelty over each of documents D5 and D1, as well as to inventive step taking D5 as the document constituting the closest prior art. The other conclusions reached by the opposition division were not contested.
3. Admittance of D35
 - 3.1 The submission of document D35 by the appellant with letter of 12 October 2022, i.e. after notification of the summons to oral proceedings, constitutes an amendment of the appellant's appeal case, the admittance of which is subject to the stipulations of Article 13(2) RPBA 2020 (which is applicable under Article 25(1) and (3) RPBA 2020). According to this provision an amendment to a party's case shall in principle not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned.
 - 3.2 In that respect, no arguments were put forward by the appellant why D35 was submitted so late.

- 3.3 D35 is an introductory page of the proceedings of a conference on metal-organic compounds held in 1957 and provides a general statement regarding the meaning of the term "metal-organic compounds" (D35: first paragraph). The appellant argued that D35 was *prima facie* highly relevant and filed in reaction to the Board's communication (letter of 12 October 2022: page 1, penultimate paragraph; page 2, first full paragraph).
- 3.3.1 However, neither in writing, nor at the oral proceedings before the Board, the appellant has shown, or even argued, that "exceptional circumstances, justified by cogent reasons" were present and justified the filing of D35 at such a late stage of the proceedings. In that respect, the relevance of D35 - which was relied upon by the appellant - is not a criterion mentioned in Article 13(2) RPBA 2020.
- 3.3.2 Nor can the Board identify any such exceptional circumstances. In particular, the issue of the meaning of the term "metal-organic compounds" was already at stake during the opposition proceedings (reasons for the decision: section 2.3.1.3) and was further disputed by the respondent from the outset of the appeal proceedings (rejoinder: section IV.2.2). Under these circumstances, document D35 could and should have been filed earlier, in particular in direct reply to the rejoinder at the latest, if the appellant contemplated to rely on it.
- 3.3.3 In addition, it was not shown - in particular at the oral proceedings before the Boards - that the Board's communication contained any elements that may have justified the late filing of D35. The Board also considers that no new issues were raised therein and

that the Board's considerations were fully in accordance with the respondent's line of argumentation. Therefore, the Board cannot recognise that there was a change in the subject of the proceedings after the communication was received by the parties.

3.3.4 In view of the above, the Board found it appropriate to exercise its discretion by not admitting document D35 into the proceedings (Article 13(2) RPBA 2020).

4. Article 54 EPC - Document D5

4.1 According to the decision under appeal (section 2.3.4 of the reasons), the subject-matter of claim 1 of the main request was not novel over the compositions comprising no metal catalysts disclosed in example 1 of D5 (page 30, lines 9-21; figures 1 and 2). The sole point in dispute between the parties in appeal is whether or not these compositions effectively comprise an acid phosphate ester as defined in operative claim 1.

4.2 In that respect, example 1 of D5 is primarily directed to the preparation of a composition comprising an acid phosphate ester as a detaching agent ("Zelec UN"), which is added together with a catalyst to a composition comprising components (A) and (B) according to operative claim 1 (D5: pages 26-28; see in particular page 28, lines 12-17 for the disclosure of the catalyst and of the detaching agent).

4.3 However, the disclosure of example 1 of D5 makes also reference to figures 1 and 2 of D5 (page 30, lines 11 and 17), which both disclose compositions in which no catalyst is used (the titles of figures 1 and 2 of D5 make for instance reference to either "the catalyst-

free composition" or "the polymerizable composition" - whereby one of the compositions illustrated in figure 2 comprises 0 ppm catalyst). There are however no explicit indications in D5 whether or not these compositions (which certainly do not contain the catalyst) contain the detaching agent. Considering the wording of the paragraphs on page 30, lines 9-21 of D5 (which make reference to said figures 1 and 2) and that according to page 28, lines 12-17 of D5 the catalyst is added together with the acid phosphate ester, the Board is of the opinion that there are at least some doubts whether or not the compositions according to figure 1 or figure 2 with 0 ppm catalyst according to D5 mandatorily contain an acid phosphate ester. In other words, it is not possible to conclude in the light of the disclosure of D5 itself that the compositions illustrated in D5 in figure 1 and figure 2 with 0 ppm catalyst necessarily contain an acid phosphate ester.

- 4.4 In the Board's view, considering that there are at least some doubts that the compositions of D5 referred to above effectively contain an acid phosphate ester, it would have been the duty of the opponent/respondent to remove these doubts by showing that said feature of operative claim 1 was implicitly, but directly and unambiguously, disclosed in D5. In that respect, the argument that it was not derivable from D5 that "the phosphate ester was necessarily absent", as put forward by the opposition division (section 2.3.4.3) is not persuasive. Also, the opposition division's conclusion that "it has to be assumed that (an acid phosphate ester) is still present in the compositions lacking the catalyst" (which is explicitly indicated as constituting an assumption) does not satisfy the criterion of a direct and unambiguous disclosure, which is necessary according to established case law to

arrive at a lack of novelty (see Case Law of the Boards of Appeal of the EPO, 10th edition, 2022, I.C.4.1).

- 4.5 In addition, it is further taken into account that the appellant filed in appeal additional evidence D30 to D34 to show that the compositions of D5 relied upon by the opposition division in fact did not contain an acid phosphate ester. In that respect, the Board does not share the concerns expressed by the respondent in its rejoinder regarding the rework of D5 carried out by the appellant in D30 (rejoinder: page 5, section 1 to page 7, section 4) and rather agrees with the appellant's arguments that D30 is a fair reproduction of the teaching of D5 (letter of 18 December 2020: sections 1 to 1.5, in particular taking into account the correction of D30 regarding the nature of the polyisocyanate raw material Desmodur W/Vestanat[®]H₁₂MDI - see page 4, second full paragraph -). Also, these data confirm that the compositions relied upon by the opposition division did not contain an acid phosphate ester.

That view, which was provided to the parties in the Board's communication well in advance of the oral proceedings, was not contested by the respondent.

- 4.6 In view of the above, the subject-matter of claim 1 of the main request is novel over D5.

5. Article 54 EPC - Document D1

- 5.1 The appellant adhered to the finding of the opposition division (decision under appeal: section 2.3.1 of the reasons) that the subject-matter of claim 1 of the main request was novel over the compositions according to examples 5 to 7 of D1 because the latter compositions

mandatorily contained some tetrabutyl titanate catalyst (as indicated in footnote 1 of table II of D1). In the decision under appeal, novelty was held to be given considering that the term "metal organic catalyst" was not well-defined in the art and that, in view of paragraphs 44 and 45 of the patent specification, the presence of tetrabutyl titanate was excluded from the polymerisable composition being claimed due to the requirement "in absence of (...) metal organic catalysts". According to the decision, the latter feature was to be interpreted in its broadest sense, which was done when the term "metal organic catalyst" was read as meaning "any compound having a metal atom bound to an organic group".

- 5.2 The respondent argued that, in particular in view of D2, the wording of claim 1 did not mandatorily exclude the presence of tetrabutyl titanate from the compositions being claimed. Therefore, the subject-matter of operative claim 1 was not novel over example 7 of D1, so the respondent.
- 5.3 In view of the above, it was not in dispute between the parties that, apart from the feature "in absence of (...) metal organic catalysts", all the other requirements defined in operative claim 1 were met by the composition prepared in example 7 of D1. Under these circumstances, the issue in dispute between the parties boils down to assessing whether or not the feature "in absence of (...) metal organic catalysts" mandatorily excludes the presence of "tetrabutyl titanate" (see chemical formula on the top of page 12 of the rejoinder) from the compositions being claimed.
- 5.4 In that respect, it was not in dispute between the parties that the term "metal organic catalysts", as

specified in operative claim 1, has no accepted and unambiguous definition in the art. The Board has also no reasons to deviate from that view.

5.5 The appellant and the opposition division put forward that in view of the lack of an accepted definition for the term "metal organic catalysts", the skilled person would turn to the description of the patent specification to interpret it. In doing so, the skilled person would understand that tetrabutyl titanate was excluded from the scope of the claims in view of paragraphs 45 to 47 of the patent in suit.

However, the Board considers that the passages of the patent in suit relied upon by the appellant neither provide a clear and unambiguous definition of the term "metal organic catalyst" (that term is in fact not disclosed *per se* in the whole patent specification, apart from the claims), nor specify that tetrabutyl titanate is a "metal organic catalyst". In the Board's view, these paragraphs merely specify which catalysts are conventionally used in the art. From paragraph 48, it is further only derivable that the acid phosphate ester catalysts specifically mentioned in operative claim 1 are not toxic, which is not the case of mercury- or tin-based catalysts of the prior art. Therefore, it cannot be concluded that even if the skilled person were to consider paragraphs 45 to 47, he or she would conclude that tetrabutyl titanate must not be present in the compositions being claimed. For these reasons, the argument did not convince.

5.6 Under these circumstances, according to established case law, the normal rule of claim construction is that the terms used in a claim should be given their broadest technically sensible meaning in the context of

the claim in which they appear. This means that, in the present case, the broadest meaning of the feature "in absence of (...) metal organic catalyst" has to be established.

- 5.6.1 In that respect, the Board agrees with the opposition division (last sentence on page 8 and first paragraph on page 9 of the decision under appeal) and the appellant that the feature "in absence of (...) metal organic catalyst" may, in view of its literal wording, be read as excluding the presence of "any compound having a metal atom bound to an organic group". Following that reading, the compositions according to operative claim 1 would not encompass tetrabutyl titanate (see formula at the top of page 12 of the rejoinder).
- 5.6.2 However, the Board is also of the opinion that, as put forward by the respondent, the term "metal organic catalyst" can not only be read as meaning "any compound having a metal atom bound to an organic group", but that it can also be read as being only related to a more restricted group of components, namely organometallic compounds comprising a metal-carbon bond as indicated in D2 (first sentence of the entry "Metall-organische Verbindungen"), which is a standard technical dictionary in the field of chemistry. This is first derivable from the similarity of the terms "metal organic catalyst" and "organometallic compounds" (which is indicated at the end of the entry "Metall-organische Verbindungen" to constitute the corresponding English translation) in the English language. In addition, this is also confirmed by the arguments put forward by the appellant themselves during the prosecution of the file, according to which the wording "absence of ... metal organic catalysts" meant "absence of

organometallic catalysts", as pointed out by the respondent (rejoinder: page 10). In that respect, the fact that the appellant's arguments during file prosecution should be considered as inaccurate in view of the teaching of the patent in suit (letter of 12 October 2022: page 4, penultimate paragraph) is not persuasive and is rejected by the Board considering that the teaching of the patent in suit cannot be seen as limiting the more general definition of a term according to a standard dictionary such as D2 and that in any case the patent does not provide a clear definition (see point 5.5, above). The same is also valid regarding the argument that in the patent in suit the term "organometallic catalyst" is used in respect of compounds both having and not having direct metal-carbon bonds (letter of 12 October 2022: bottom of page 4 and top of page 5).

- 5.6.3 Considering the English translation of "Metall-organische Verbindungen" given at the end of the corresponding entry in D2 (page 2617, bottom of the right hand side column: "organometallic compounds"), the fact that D2 is in the German language (whereas the term in dispute is an English one) does not affect the conclusion reached in section 5.6.2, in particular taking into account the arguments put forward by the appellant during the file prosecution mentioned in the preceding section. The same is valid regarding the fact that D2 provides different translations in different languages. Therefore, the appellant's arguments in that respect are not persuasive (letter of 18 December 2020: page 9, first paragraph; letter of 12 October 2022: page 3, section 2, fifth paragraph). In that regard, it is pointed out that the above conclusion is not reached considering that the term "metal organic compound" and "organometallic compound" are equivalent, as apparently

understood by the appellant (letter of 12 October 2022: section 2), but considering that the term "metal organic compound" may, among others, be possibly read as meaning "organometallic compound".

- 5.6.4 Although D17 discloses tetrabutyl titanate as an organometallic compound (lines 10 and 11 of the entry "organometallic compound" on page 929 of D17), this is not in line with the requirement indicated in lines 1-3 of the same entry that an organometallic compound should comprise "a metal attached directly to carbon" (which is not the case of tetrabutyl titanate as may be seen e.g. from the formula of that compound given at the top of page 12 of the rejoinder). In view of that apparent inconsistency within D17, the appellant's argument relying thereon fails to convince (letter of 18 December 2020: page 8, last paragraph).

In addition, even if D17 were to be relied upon and be held to exclude the presence of tetrabutyl titanate in the compositions being claimed, it would not change the conclusion reached in section 5.6.2 above that tetrabutyl titanate may nevertheless be present when operative claim 1 is read considering that the term "metal organic catalyst" is defined according to D2.

- 5.6.5 In view of the above, the Board is satisfied that a possible reasonable meaning of the feature "in the absence of ... metal organic catalysts" only excludes the presence of compounds comprising a metal-carbon bond from the compositions being defined in operative claim 1. According to that reading, tetrabutyl titanate can be present in the compositions being claimed.

- 5.6.6 It is concluded therefore that the wording "in the absence of ... metal organic catalysts" can be read in

at least two possibly reasonable manners, whereby the first one excludes tetrabutyl titanate from the compositions being claimed (section 5.6.1) whereas the second one does not (sections 5.6.2 to 5.6.5). However, reading operative claim 1 in its broadest sense, the presence of tetrabutyl titanate in the composition of example 7 of D1 cannot be seen as a feature distinguishing the subject-matter of operative claim 1 from said composition. In other words, the presence of tetrabutyl titanate in the compositions according to example 7 of D1 cannot confer novelty to the subject-matter of operative claim 1 over that composition.

- 5.7 In the Board's view, the normal rule of claim construction of reading a feature specified in a claim in its broadest technically meaningful sense as indicated in section 5.6 above corresponds to determining the broadest scope encompassed by the subject-matter being claimed according to a technically sensible reading. In the case of a feature defined in a positive manner, which imposes the presence of a specific element (e.g. a component), this is effectively achieved by giving to the element in question its broadest technically sensible meaning. However, for a feature defined in a negative manner, which excludes the presence of a specific element, the broadest scope of the claim corresponds to the narrowest (i.e. most limited) technically sensible definition of the element to be excluded. Applying that concept to the present case means that the broadest technically sensible reading of operative claim 1 is obtained by reading the components to be excluded ("metal organic catalysts") in the most limited way.

- 5.8 Contrary to the appellant's view (letter of 18 December 2020: page 9, last paragraph of section 2), the above issue is not an objection of lack of clarity pursuant to Article 84 EPC (which indeed could not be addressed at the present stage since the term at stake is already present in the granted claims: see G 3/14, OJ EPO 2015, 102) but an objection of lack of novelty pursuant to Article 54 EPC. Indeed, the objection is not that claim 1 does not satisfy the requirements of Article 84 EPC because its scope is not unambiguously defined. Rather, the objection is that the subject-matter of claim 1 is anticipated by the composition according to example 7 of D1 taking into account the scope of operative claim 1.
- 5.9 In view of the above, the subject-matter of claim 1 of the main request is not novel over example 7 of D1 and, for that reason, the main request is not allowable.

First auxiliary request

6. Novelty
- 6.1 The subject-matter of claim 1 of the first auxiliary request differs from the one of claim 1 of the main request in that it is additionally specified that the acid phosphate ester catalyst contained therein must be according to formula (I) or (II) and should be present in a specific amount.
- 6.2 No separate or additional objections were raised by the respondent against the first auxiliary request as compared to the main request.
- 6.3 The appellant argued that, should the Board conclude that claim 1 of the main request was not novel over D1,

then the amendments made would confer novelty over D1 (letter of 18 December 2020: page 14, second to fourth paragraphs). That view was not disputed by the respondent and also the Board sees no reasons to disagree, in particular because the composition according to example 7 of D1 does not comprise an acid phosphate ester catalyst as now defined in a more limited manner on the basis of formulae I or II.

6.4 Considering that claim 1 of the first auxiliary request corresponds to a limitation of the subject-matter according to claim 1 of the main request, novelty of claim 1 of the first auxiliary request over D5 is further to be acknowledged for the same reasons as for the main request.

6.5 In view of the above, none of the respondent's objections of lack of novelty raised against claim 1 of the main request can anticipate the subject-matter of claim 1 of the first auxiliary request.

7. Article 56 EPC

7.1 Closest prior art

7.1.1 The sole objection of lack of inventive step put forward in appeal by the respondent (against the main request) was based on document D5 as the closest prior art in accordance with the decision under appeal. There is no reason for the Board to deviate from that view.

7.1.2 However, it was in dispute between the parties which passage of D5 would be considered as a suitable starting point for the assessment of the inventive step. Whereas the respondent started from the comparative compositions of D5 which do not contain a

catalyst (rejoinder: page 13, first full paragraph), the appellant argued that this would only be done based on hindsight, which was not allowable (letter of 18 December 2020: last paragraph on page 9 and page 10, second and third paragraphs). Rather, the appellant put forward that the compositions of D5 comprising a catalyst would represent the most promising starting point.

7.1.3 a) According to established case law, the closest prior art for assessing inventive step is a prior art disclosing subject matter conceived for the same purpose or aiming at the same objective as the claimed invention and having the most relevant technical features in common, i.e. requiring the minimum of structural modifications (Case Law, *supra*, I.D.3.1).

b) In that respect, the patent in suit is primarily directed to i) a polymerizable liquid composition and ii) a process for the production of organic glass, having good optical and physico-mechanical properties, starting from said polymerizable liquid compositions, as well as to iii) the organic glass obtained from the polymerization of said compositions (paragraph 1).

c) In view of this, the Board agrees with the appellant that the skilled person starting from D5 would consider the compositions disclosed therein comprising a catalyst as the most promising starting point for the assessment of the inventive step since only these compositions were effectively polymerised and used to prepare organic glasses having satisfying properties according to the whole teaching of D5 (page 5, line 23 to page 6, line 16; page 8, line 22 to page 9, line 16; page 15, lines 5-12; page 22, lines 2-22; page 23, lines 13-19; examples). Considering as starting point

the compositions of D5 without catalyst, which are mentioned therein only to show stability at room temperature in the ideal case of absence of a catalyst (page 30, lines 9-21 with reference to Figures 1 and 2), would, in the Board's view, only be considered by the skilled person with hindsight, which is not allowable.

7.2 The respondent has, however, not provided any proper objection of lack of inventive step starting from the compositions according to D5 and comprising a catalyst as the closest prior art and this, although that deficiency had been identified by the Board in its communication, which was sent to the parties well in advance of the oral proceedings (see section 9.1.3 of the Board's communication). Therefore, already for that reason, the respondent's argumentation provide no cause to overturn the decision of the opposition division in respect of the inventive step.

7.3 In addition, the respondent has provided no counter-arguments to refute the Board's preliminary considerations regarding the assessment of the inventive step in respect of the main request, in particular regarding the identification of the distinguishing feature over the closest prior art identified in section 7.1.3 above, the formulation of the problem effectively solved over said closest prior art and/or the non-obviousness of the solution in view of D5, optionally in combination with D27, D28 and D12 (see sections 9.2 to 9.4 of the Board's communication). In particular, no arguments were put forward to refute the preliminary conclusion of the Board in respect of the main request that:

- It seemed undisputed that the subject-matter of operative claim 1 differed from the compositions of the examples of D5 comprising a catalyst (phenyl mercury neodecanoate: see page 28, line 12 of D5) and an acid phosphate ester in that the compositions being claimed did not contain a "metal organic catalyst";
- It seemed that the problem effectively solved as compared to the closest prior art resided in the provision of another polymerisable composition allowing a good homogenisation and guaranteeing a complete hardening;
- The respondent's arguments did not appear to show why it would have been obvious to solve that by modifying the teaching of the closest prior art so as to arrive at a composition according to operative claim 1.

Considering that claim 1 of the first auxiliary request is a limitation of claim 1 of the main request, the preliminary conclusions reached for the main request are equally valid for claim 1 of the first auxiliary request. Under these circumstances, in the absence of any counter-arguments put forward by the respondent, there is no reason for the Board to deviate from its preliminary view and to acknowledge an inventive step for claim 1 of the first auxiliary request at least for the same reasons as for claim 1 of the main request. In particular, the respondent has not shown that it would be obvious to modify the compositions according to the closest prior art so that they do not contain "metal organic catalyst", which would be required in order to arrive at the subject-matter being claimed.

- 7.4 In view of the above, the respondent's arguments do not allow to conclude that the subject-matter of claim 1 of the first auxiliary request does not involve an inventive step over D5.
8. Since none of the objections raised by the respondent is successful against the claims of the first auxiliary request, the patent is to be maintained in amended form on that basis.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to maintain the patent in amended form on the basis of the claims of the first auxiliary request filed with letter of 18 December 2020 and after any necessary consequential amendments of the description.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated