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Datasheet for the decision of 7 November 2019

Case Number: T 0101/15 - 3.3.10

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Language of the proceedings: EN

Title of invention:
PROCESS FOR SYNTHESIZING SELECTED ORGANIC PEROXIDES

Patent Proprietor:
ARKEMA FRANCE

Opponent:
United Initiators GmbH

Headword:
PROCESS FOR SYNTHESIZING PEROXIDES / Arkema

Relevant legal provisions:
EPC Art. 100(c)
RPBA Art. 13(1)

Keyword:
Grounds for opposition - extension of subject-matter (yes)
Late-filed auxiliary request - request clearly allowable (no)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0101/15 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 7 November 2019

Appellant: (Opponent)	United Initiators GmbH Dr.-Gustav-Adolf-Str. 3 82049 Pullach (DE)
Representative:	Heubeck, Christian Weickmann & Weickmann Patent- und Rechtsanwälte PartmbB Postfach 860 820 81635 München (DE)
Respondent: (Patent Proprietor)	ARKEMA FRANCE 420, rue d'Estienne d'Orves 92700 Colombes (FR)
Representative:	Gorintin, Sarah ARKEMA France Département Propriété Industrielle 420, rue d'Estienne d'Orves 92705 Colombes Cedex (FR)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 17 November 2014 concerning maintenance of the European Patent No. 2010484 in amended form.**

Composition of the Board:

Chairman	P. Gryczka
Members:	J.-C. Schmid
	T. Bokor

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the interlocutory decision of the Opposition Division which found that the European patent No. 2 010 484 in amended form met the requirements of the EPC. Claim 1 of the patent as granted and as upheld reads as follows:

"1. Process for the continuous preparation of organic peroxides selected from the group consisting of di(n-propyl)peroxydicarbonate, di(sec-butyl) peroxydicarbonate, di(2-ethylhexyl) peroxydicarbonate, 1,1-dimethyl-3-hydroxybutyl peroxyneodecanoate, ct-cumyl peroxyneodecanoate, a-cumyl peroxyneoheptanoate, tert-amyl peroxyneodecanoate, tert-butyl peroxyneodecanoate, tert-amyl peroxypivalate, tert-butyl peroxypivalate, 2,5-dimethyl-2,5-di(2-ethylhexanoylperoxy)hexane, tert-amyl peroxy-2-ethylhexanoate, tert-butyl peroxy-2-ethylhexanoate, tert-amylperoxyacetate, tert-butyl peroxyacetate, tert-amyl perbenzoate, tert-butyl perbenzoate, OO-tert-amyl-0(2-ethylhexyl) monoperoxycarbonate, OO-tert-butyl-O-isopropyl monoperoxy-carbonate, OO-tert-butyl 1-(2-ethylhexyl)monoperoxy-carbonate, poly(tert-butyl peroxycarbonate) polyether, decanoyl peroxide, lauroyl peroxide, succinicacid peroxide, benzoyl peroxide, 1,1-di(tert-butylperoxy)-3,3,5-trimethylcyclohexane, 1,1-di(tert-butylperoxy)-cyclohexane, 1,1-di(tert-amylperoxy)cyclohexane, n-butyl 4,4-di(tert-butylperoxy)valerate, ethyl 3,3-di(tert-amylperoxy)butyrate, tert-butyl peroctoate, ethyl 3,3-di(tert-butylperoxy)butyrate, cumene hydro-peroxide, and tert-butylhydroperoxide, and mixtures thereof comprising introducing reactants at flow rates ranging from 1 l/h to 2000 l/h into a closed plate exchanger comprising at least three plates in contact with one

another defining chambers connected in series, adding through at least 2 inlet points reactants into the reaction flow, tempering the reaction flow to a temperature within the range of from 0 to 100°C, reacting the reactants with the reaction flow to form said organic peroxides."

II. In its notice of opposition the appellant requested revocation of the patent-in-suit in its entirety on the grounds of lack of inventive step (Article 100(a) EPC), insufficient disclosure of the invention (Article 100(b) EPC), and extension of the subject-matter of the patent-in-suit beyond the content of the application as filed (Article 100(c) EPC).

In the contested decision, the Opposition Divison *inter alia* considered that the amendment of "reaction flow" to "reactants" was supported by page 8, line 21 to 33 of the application as filed and concluded that the subject-matter of claim 1 of the main request did not extend beyond the content of the application as filed (Articles 100(c) and 123(2) EPC).

III. In the communication dated 2 July 2019 accompanying the summons to oral proceedings, the Board informed the parties that the subject-matter of claim 1 of all requests appeared to extend beyond the content of the application as filed (Article 100(c); 123(2) EPC).

IV. With the letter dated 7 October 2019, the respondent filed auxiliary requests 1bis to 4bis.

V. At the oral proceedings before the Board, held on 7 November 2019, the respondent withdrew auxiliary requests 1 to 4 and 1bis to 4bis and filed auxiliary

request 5bis. Claim 1 of auxiliary request 5bis reads as follows:

"1. Process for the continuous preparation of organic peroxides selected from the group consisting of [list of peroxides as in claim 1 of the patent as granted] comprising introducing a reaction flow into a closed plate exchanger comprising at least three plates in contact with one another defining chambers connected in series, adding through several inlet points reactants into the reaction flow in said closed plate exchanger, the flow rates for the introduction of the reactants varying from 1 l/h to 2000 l/h, tempering the reaction flow to a temperature within the range of from 0 to 100°C, reacting the reactants with the reaction flow to form said organic peroxides.".

VI. According to the appellant, the finding in the contested decision that the passage of page 8, lines 21-33 of the application as filed provides a basis for amending the term "reaction flow" to "reactants" in the claimed process could not be understood. There is no clear and unambiguous disclosure either in the cited passage, or in the application as filed as a whole to support that amendment. Therefore, the subject-matter of claim 1 of the main request violates the requirements of Article 123(2) EPC.

Claim 1 of auxiliary request 5bis infringed the requirement of Article 123(3) EPC, since *inter alia* reactants comprised in the reaction flow could be introduced in any flow rates to the close plate exchanger, while the process of the claims of the patent as granted limited the flow rates at which the reactants were introduced into the exchanger to 1 l/h to 2000 l/h. Furthermore, the amendment of "at least

two” to “several” was not based on the application as filed and introduced a lack of clarity of the claimed subject-matter without solving the issue of extension of the scope conferred by the patent-in-suit. Auxiliary request 5bis should not be admitted into the appeal proceedings since it was late filed and not clearly allowable under Articles 123(2) and (3) EPC and 84 EPC.

VII. According to the respondent, the passage on page 8, lines 29 to 33 of the application as filed "…The reaction flow is introduced at a flow rate ranging [...] the flow rates for introduction of the reactants range from 0,1 l/h to 2000 l/h, in particular from 1 l/h to 2000 l/h" unambiguously referred to the reaction flow. There was therefore a direct link between the expression "a reaction flow" and the term "reactants". The skilled person therefore had no difficulty in directly and unambiguously deducing the exact meaning of the change from the expression "a reaction flow" to the term "reactants" which were described in the application as filed as representing the same characteristic. The decision of the Opposition Divison confirming the absence of a violation of Article 123(2) EPC was perfectly well founded and the appellant’s objection under Article 100(c) EPC should be rejected.

Auxiliary request 5b should be admitted into the appeal proceeding. Both in its preliminary opinion and in the decision under appeal, the Opposition Divison found that claim 1 of the main request complied with the requirement of Article 123(2) EPC. In the statement of the ground of appeal, the appellant did not indicate why the reasoning of the Opposition Divison was erroneous and repeated merely the arguments already put forward in the opposition proceedings. Auxiliary request 5bis was derived from auxiliary request 2bis

wherein the expression "at least two" has been amended into "several". Auxiliary request 2bis was filed in reaction to the communication of the Board indicating that claim 1 of the main request may not be supported by the application as filed. Claim 1 of auxiliary request 5bis clearly did not extended the scope of protection, since the feature "the flow rates for the introduction of the reactants varying from 1 l/h to 2000 l/h" also applied to the flow rate of the reaction flow comprising reactants, all the more because the reactants were added to the reaction flow through several inlet points, i.e. three or more. The modifications carried out in auxiliary request 5bis were clear and clearly satisfied the requirements of Articles 84, 123(2) and (3) EPC. Hence auxiliary request 5bis should be admitted into the appeal proceedings.

VIII. The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the appeal be dismissed, i.e. that the patent be maintained in amended form as held allowable by the Opposition Divison, (main request) or, subsidiarily, that the patent be maintained on the basis of auxiliary request 5bis filed during the oral proceedings before the Board.

IX. At the end of the oral proceedings the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

Main request

2. Amendments (Article 100(c) EPC)

2.1 Claim 1 of the main request is identical to claim 1 of the patent as granted. The patent in suit has been opposed inter alia on the ground that the subject-matter of the patent extended beyond the content of the application as filed (Article 100(c) EPC). The feature in claim 1 of the main request "introducing reactants at flow rates ranging from 1 l/h to 2000 l/h into a closed plate exchanger" was objected to by the appellant for having no basis in the application as filed.

According to appellant there was no basis in the application as filed for removing the first step of the process, defined as "introducing **a reaction flow** into a closed plate exchanger..." and to replace it by the step of "introducing **reactants at flow rates** ranging from 1 l/h to 2000 l/h into a closed plate exchanger.." (emphasis by the Board).

2.2 The passages on page 8 of the application as filed and quoted by the Opposition Divison as the support for the change from "reaction flow" to "reactants" in claim 1 read:

- lines 21 to 28: "…comprising introducing a reaction flow into a closed plate exchanger comprising at least three plates in contact with one another defining chambers connected in series, adding through at least 2 inlet points reactants into the reaction flow…".
This section of the application as filed corresponds to the counterpart of claim 1 as originally filed, and

consequently does not provide a basis for the amendment of “reaction flow” to “reactants”.

- lines 29 and 30: “In one embodiment, the reaction flow is introduced at a flow rate ranging from 0.1 1/h to to [sic] 5000 1/h. This section clearly does not provide a basis for the amendment of “reaction flow” to “reactants”.

-lines 31 to 33: “Preferably, in the process of the invention, the flow rates for introduction of the reactants vary from 0.1 1/h to 2000 1/h, in particular from 1 1/h to 2000 1/h.” This section also clearly does not provide a basis for the amendment of “reaction flow” to “reactants”.

Therefore, it clearly appears that the section of page 8, lines 21 to 33 of the application as filed cited by the Opposition Divison, does not provide a basis for the contested modification.

2.3 According to the respondent, “reaction flow” and “reactants” had the same meaning.

The application as filed does not provide any definition of "reaction flow" corroborating this interpretation. The skilled person would thus understand that a reaction flow means the flow of the whole medium in which the reaction has to be carried out. Thus, as pointed out by the respondent the reaction flow may comprise reactant(s), but it may also only consist of the medium (solvent) to carry out the reaction. The feature of introducing reactants encompassed the possibility of introducing reactants alone or in combination with a solvent. Hence, the features “reactants” and “reaction flow”, although

overlapping, have different meanings, and they are distinct terms as used in the application as filed.

In addition, the application as filed distinguishes between these two features and assigns different flow rates to them, i.e. a flow rate of 0.1 1/h to 5000 1/h for the reaction flow which is introduced in the closed plate exchanger – see lines 29-30 and flow rates of 0.1 1/h to 2000 1/h, in particular from 1 1/h to 2000 1/h for the introduction of the reactants into the reaction flow - see page 8, lines 31 to 33 of the application as filed.

Accordingly replacing "reaction flow" by "reactants" in the first step of the claimed process provides the skilled person with technical information which is not directly and unambiguously derivable from the application as filed.

The respondent further argued that the skilled person would understand that there is no difference when carrying out the process of claim 1, whether in the first step a reaction flow is introduced into the closed plate exchanger or wether reactants are introduced into the close plate exchanger. However, the requirement for the allowability of an amendment under Article 123(2) EPC is that the amendment must be directly and unambiguously derivable from the application as filed. As indicated above, the ranges given for the rates of introduction into the exchanger are disclosed in the application as filed for the "reaction flow" and not for the "reactants" as such.

2.4 The Board comes therefore to the conclusion that the application as filed does not provide a proper basis for claim 1 as granted, which consequently extends the

subject-matter beyond the content of the application as filed, thus the ground for opposition pursuant to Article 100(c) EPC precludes the maintenance of claim 1 as granted and upheld.

Auxiliary request 5bis

3. Admission

3.1 Auxiliary request 5bis was filed during the oral proceedings before the Board. It corresponds to auxiliary request 2bis filed with the letter dated 7 October 2019, except that the wording "at least two" has been replaced with "several". The Appellant objected to the admission of this request on the grounds that it was late-filed and not clearly allowable.

3.2 Since the respondent's previous auxiliary request 2bis has been withdrawn, it is not necessary or even appropriate for the Board to state the reasons why it has decided during the oral proceedings not to admit this request into the appeal proceedings. However, given that the respondent stated that the filing of the auxiliary request 5bis was a response to arguments raised by the Board in the oral proceedings preceding the non-admission of the auxiliary request 2bis, these arguments are also applicable for the admission of auxiliary request 5bis.

3.3 Auxiliary request 2bis was filed one month before the oral proceedings. According to the respondent it was filed as a response to the indication of the Board in the communication accompanying the summons to oral proceedings that claim 1 of the main request appeared not to fulfil the requirement of Article 123(2) EPC.

However, this objection was already raised before the Opposition Divison, and was dealt with in the decision under appeal. The Appellant has raised again this objection in the statement of grounds of appeal. In its reply to the statement of the grounds of appeal, the respondent provided arguments why this objection should be rejected, but did not file new requests, such as the ones currently under discussion, in order to overcome the objection, should the Board follow the arguments of the appellant in this respect.

Contrary to the respondent’s submission, it cannot be surprising to a party that a board may depart from the conclusion reached by an Opposition Divison on an issue in a contested decision. An opinion of a board expressed in a communication pursuant to Article 15(1) RCBA, which is solely based on arguments put forward in the statement of the grounds for appeal, is not an invitation for parties to file new requests or generally to present new facts. In *inter partes* proceedings, the parties are expected to play an active role and to provide requests and substantive submissions at an early stage.

According to Article 13(1) RPBA any amendment to a party's case after it has filed the reply of the statement of the grounds of appeal may be admitted and considered at the Board's discretion, which should be exercised in view of the current state of the proceedings and the need for procedural economy. Furthermore, the request was filed after oral proceedings have been arranged, so that Article 13(3) RPBA also applies.

3.4 Auxiliary requests filed after oral proceedings have been arranged shall not be admitted if they cannot be

easily and promptly assessed as to their patentability by the other parties and the Board. This criterion falls within the principle of procedural economy for the exercise of the Board's discretion to admit late requests.

3.5 In the process of claim 1 of auxiliary request 2bis, reactants comprised in the reaction flow rate could be introduced to the closed plate exchanger at any flow rates, while the process of claims of the patent as granted limited the flow rates at which the reactants were introduced into the exchanger to a flow rate of 1 l/h to 2000 l/h. For this reason, claim 1 of auxiliary request 2bis appears to infringe Article 123(3) EPC.

In the process of claim 1 of auxiliary request 5bis, the respondent replaced "at least two inlet points" present in auxiliary request 2bis by "several inlet points" to make clear that reactants introduced to the closed plate exchanger via the reaction flow were also limited to flow rates of 1 l/h to 2000 l/h.

However, the modification proposed during the oral proceedings does not solve the problem of extension of scope of protection of previous late-filed auxiliary request 2bis and furthermore introduces new issues of clarity (interpretation of several being at least three made by the respondent) and lack of clear support for this modification in the application as filed.

Hence, auxiliary request 5bis is not clearly allowable. Its filing during oral proceedings thus raises new objections at an advanced stage of the appeal procedure, which is contrary to the very principle of procedural economy.

The Board therefore decides not to admit auxiliary request 5bis into the proceedings (Article 13(1) RPBA).

4. As there is no admissible request which fulfils the requirements of the Convention, 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:

C. Rodríguez Rodríguez P. Gryczka

Decision electronically authenticated