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**Datasheet for the decision  
of 12 July 2017**

**Case Number:** T 1120/15 - 3.3.06

**Application Number:** 07799212.1

**Publication Number:** 2032254

**IPC:** B01J23/00, C10G11/04, C10G25/00

**Language of the proceedings:** EN

**Title of invention:**

ADDITIVES FOR REMOVAL OF METALS POISONOUS TO CATALYSTS DURING  
FLUIDIZED CATALYTIC CRACKING OF HYDROCARBONS

**Applicant:**

Albemarle Netherlands BV

**Headword:**

HTC / ALBEMARLE

**Relevant legal provisions:**

RPBA Art. 13(3)

**Keyword:**

New claim requests filed one day before the oral proceedings  
not admitted into the proceedings - not clearly allowable

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 1120/15 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 12 July 2017**

**Appellant:** Albemarle Netherlands BV  
(Applicant) Barchman Wuytierslaan 10  
3818 LH Amersfoort (NL)

**Representative:** Schwabe - Sandmair - Marx  
Patentanwälte Rechtsanwalt  
Partnerschaft mbB  
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**Decision under appeal:** **Decision of the Examining Division of the  
European Patent Office posted on 22 December  
2014 refusing European patent application No.  
07799212.1 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman** B. Czech  
**Members:** P. Ammendola  
C. Vallet

## Summary of Facts and Submissions

- I. This appeal lies from the decision of the Examining Division to refuse the European patent application No. 07 799 212.1.
- II. The application relates to "*compositions comprising hydrotalcite*" or "*hydrotalcite-like materials*" having dispersed on their surfaces certain "*trapping metals*" capable of removing poisonous metal(s) from hydrocarbons in the fluidized catalytic cracking of hydrocarbons.

In accordance with the abbreviations used in the application, also herein below the acronym **FCC** designates the fluidized catalytic cracking of hydrocarbons and the acronym **HTC** designates hydrotalcite.

According to claim 3 of the application as filed, the "*trapping metals comprise barium, calcium, manganese, lanthanum, iron, tin zinc, cerium, or any element in Group 2, as identified in a Periodic Table of Elements.*"

According to the application as filed, suitable HTC (or HTC-like) carriers include mixed metal oxides of CaO, MgO and Al<sub>2</sub>O<sub>3</sub> (page 2, paragraph [0008]).

- III. The reasoning of the Examining Division is based on the disclosure of document

D2 = US 6,010,619 A,

relating to a HTC-like materials comprising strontium, and the use thereof to prevent metal poisoning of the

catalyst during FCC, which was found to anticipate the subject-matter claimed according to the then pending Main Request and, combined with the teaching of another document (D7), rendered obvious the subject-matter claimed according to the then pending Auxiliary Request.

- IV. In its statement of grounds of appeal the Appellant (Applicant) maintained its requests and rebutted the findings of the Examining Division.
- V. The Appellant was summoned to oral proceedings to be held on 12 July 2017. In a communication issued in preparation therefor, the Board indicated that it was of the preliminary opinion that the subject-matter of the claims according to the requests was not patentable in the light of document D2, for essentially the same reasons as given in the decision under appeal. The Board also raised further objections as to the compliance of the claims then on file with Articles 84 and 123(2) EPC.
- VI. On 11 July 2017, at about 11:30 a.m. the Appellant filed ten new sets of amended claims labelled Main Request, Main Request A, Auxiliary Requests 1 to 4 and Auxiliary Requests 1A to 4A. These new requests (hereinafter the **pending requests**) were filed under cover of an accompanying letter setting out why the Appellant believed that these requests were formally allowable and defined patentable subject-matter. The previously pending (Main and 1<sup>st</sup> Auxiliary) claim requests were re-numbered "fifth auxiliary request and "sixth auxiliary request".
- VII. Oral proceedings were held on 12 July 2017, in the course of which the Appellant expressly withdrew the

requests forming the basis of the contested decision.

VIII. The course of the oral proceedings and the arguments of the Appellant of relevance here can be summarised as follows.

The Appellant essentially argued that although they had been filed late, the pending requests should be admitted into the proceedings because, as already indicated in the accompanying letter, these requests were clearly formally allowable and overcame all pending objections, including the objections under Articles 84 and 123(2) EPC raised in the Board's communication.

The Board pointed out that the amendments introduced for the first time and intended to exclude strontium as "*trapping metal*" appeared to result in a definition of the term "*trapping metal*" differing from the definition given in the application as filed, in the sense that it no longer appeared to encompass magnesium. This different definition gave thus rise to new issues of clarity and/or added subject matter.

The Appellant rebutted these concerns indicating that in the context of the application as filed, the skilled person would certainly not construe the term "*trapping metal*" as encompassing magnesium. The clarity issues raised could thus be overcome by adapting the description.

The Board also pointed out that the reasoning on inventive step presented in the accompanying letter of 11 July 2017 was not convincing. The Appellant had apparently only considered the prior art disclosed in D2. Moreover, it had relied on the example of the

application as filed containing strontium (see Table 1, third data column from the left) as being representative of this prior art, seemingly without taking into account that (as explicitly pointed out in points 6.4.3 and 6.4.4 of the Board's communication) while in the strontium-containing HTCs disclosed in D2 the strontium constitutes at least 60 mol% of all alkaline earth metals present therein, the amount of strontium present in the strontium-containing example is not disclosed in the application as filed. Finally, the potential relevance of the other prior art on file was not addressed at all.

The Appellant replied that none of the other prior art documents disclosed a HTC comprising barium, and that according to the claims of at least some of the last filed requests barium was actually the only "*trapping metal*" present. Thus, the claimed subject-matter was "very different" from the disclosure of D2 and the person skilled in the art would never, starting from D2, arrive at subject-matter as claimed in an obvious manner.

IX. Final requests

The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis the claims according to one of the requests filed on 11 July 2017 to be taken in the following order

- Main Request
- Main Request A,
- Auxiliary Request 1,
- Auxiliary Request 1A,
- Auxiliary Request 2,
- Auxiliary Request 2A,
- Auxiliary Request 3,

- Auxiliary Request 3A,
- Auxiliary Request 4,
- Auxiliary Request 4A.

## **Reasons for the Decision**

### *Non-admittance of the pending claim requests*

1. The pending requests filed on the day before the oral proceedings are late filed within the meaning of Article 13(3) RPBA.

The admission of these requests is thus a matter for the Board's discretion.

According to the jurisprudence of the Boards of Appeal, amended claims filed shortly before or during oral proceedings may be admitted if they are clearly allowable in the sense that they do not give rise to new objections and overcome the outstanding objections, so that their patentability can be assessed without giving rise to any difficulty or delay.

2. The amendments distinguishing the claims of these requests from those considered by the Examining Division do not only address the objections under Articles 84 and 123(2) EPC raised in the Board's communication. Rather, as implied by the reasoning on novelty and inventive step presented in the accompanying letter, each of these ten sets of amended claims comprises at least one modification admittedly addressing only the objections of lack of novelty / inventive step over D2 that lead to the decision under appeal.



3. The Appellant indicated no reason justifying why these issues had only been addressed by new requests filed at such late stage of the appeal proceedings. At the hearing it has also explicitly conceded that the pending requests could have been filed earlier.

4. However, upon merely reading the passages in the accompanying letter referring to the modifications supposed to establish a (sole or further) distinction between the subject-matter claimed and the prior art disclosed in D2, a new issue of clarity and/or of added matter arising from such modifications becomes immediately apparent.

4.1 Indeed,

whereas the subject-matter of the respective claims 1 of both requests considered by the Examining Division is defined *inter alia* by reference to a "*composition consisting of hydrotalcite having one or more trapping metals dispersed on the outer surface thereof*" wherein "*said trapping metals [are] selected from the group consisting of barium, calcium, manganese, lanthanum, iron, tin zinc, cerium, **and elements of Group 2 as identified in a Periodic Table of Elements***" (emphasis added by the Board),

the subject-matter of the respective claims 1 of the pending requests is in each case defined by reference to a composition defined as above except for the deletion of the wording "*and elements of Group 2 as identified in a Periodic Table of Elements*".

4.2 This particular amendment amounts to expressly excluding, for the first time, that the magnesium

necessarily present in all the HTC-containing carriers as defined in claim 1 of all pending requests ("*naturally occurring hydrotalcite*" or "*synthetic hydrotalcite*", "*hydrotalcite-like material ... obtained from sources comprising ... a **magnesium** source*" (emphasis added by the Board) is to be considered as "*trapping metal*" as well.

However, the definition of "*trapping metal*" given in the description (paragraph [0027]) and claim 3 of the application as filed clearly embraces magnesium.

- 4.3 At the hearing, the Appellant argued in this respect that the skilled person reading the application as filed would conclude that magnesium was never intended to be considered as a "*trapping metal*" according to the invention, despite the fact that it also was one of the "*elements of Group 2 as identified in a Periodic Table of Elements*".
- 4.4 Since, the Board did not find this argument immediately convincing, it was clear that further analysis and considerations were needed, if only to come to a conclusion on this particular issue.
5. Moreover, merely upon reading, in the Appellant's accompanying letter, the reasoning submitted as regards inventive step, it became clear to the Board that no conclusion regarding compliance of at least one of the pending claim requests with the requirement of an inventive step could be reached without further analysis and considerations.
  - 5.1 In particular, in said accompanying letter, the Appellant
    - neither indicated whether and/or why D2 still had to

be considered as the closest prior art despite the substantial limitations of the claims according to the pending requests,

- nor did it provide detailed reasons as to why the claimed solution was also not obvious in the light of the other prior art on file.

- 5.2 Moreover, the Applicant also alleged in said letter that the example in Table 1 of the application as filed referring to the strontium containing material "Sr-HTC" was representative of the prior art disclosed in D2, without even commenting the facts (see points 6.4.3 and 6.4.4 of the Board's communication) that, while in the strontium-containing HTCs disclosed in D2 the strontium constitutes at least 60 mol% of all alkaline earth metals present therein, the amount of strontium present in the "Sr-HTC" material referred to in the application as filed is not disclosed therein.
- 5.3 At the hearing, in reply to these considerations of the Board in this respect, the Appellant argued in essence that at least according to some of the pending requests the claimed subject-matter was "very different" from the prior art disclosed in D2 and, thus, the person skilled in the art starting from the disclosure in this document could not possibly arrive at subject-matter falling within the ambit of claim 1. Moreover, none of the other citations disclosed a HTC comprising barium.
- 5.4 Even assuming (*arguendo*) in favour of the Appellant that the prior art disclosed in D2 taken alone could not possibly render obvious at least some of the combination of features characterising the subject matter of one or more of the pending versions of claim 1, the Board holds that the mere statement of the Appellant that the other available prior art did not

disclose HTCs containing barium is not *per se* sufficient to render immediately plausible that the subject-matters of the claims according to all pending requests, including those subject-matters allegedly "very different" from the disclosure in D2, cannot possibly be obvious in view the cited prior art.

Hence, the assessment of the allowability of each of the pending requests as regards inventive step would at least necessarily require substantial further analysis by the Board, and further considerations regarding the possible relevance of the other prior art on file besides D2.

6. In view of the above, the Board comes to the conclusion that none of the late-filed pending requests is *prima facie* clearly allowable.
7. Therefore none of the pending claim requests are admitted into the proceedings.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

B. Czech

Decision electronically authenticated