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**Datasheet for the decision
of 31 July 2019**

Case Number: T 2367/16 - 3.3.06

Application Number: 12175978.1

Publication Number: 2520364

IPC: B01J23/04, B01J37/02,
B01J35/02, B01J37/08,
B01J20/04, B01J20/10,
B01J20/32, C01B3/00, C07C2/86,
C07D333/76

Language of the proceedings: EN

Title of invention:

Silica gel compositions containing alkali metals and alkali metal alloys

Applicant:

Lefenfeld, Michael
Dye, James L.

Headword:

Alkali metal alloy - silica gel composition / LEFENFELD

Relevant legal provisions:

EPC Art. 76(1), 84, 111(1), 123(2)
RPBA Art. 13(1)

Keyword:

Admissibility (New Main Request, New First Auxiliary Request,
Second Auxiliary Request) : no - late filed and not prima
facie allowable

Admissibility (Amended Second Auxiliary Request) : yes

Clarity (Amended Second Auxiliary Request) : yes

Added matter (Amended Second Auxiliary Request) : no

Remittal: yes

Decisions cited:

Catchword:



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Case Number: T 2367/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 31 July 2019

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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 9 May 2016
refusing European patent application No.
12175978.1 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: L. Li Voti
J. Hoppe

Summary of Facts and Submissions

- I. The present appeal is against the decision of the examining division to refuse European patent application n° 12175978.1 because claim 1 of the then pending main and first auxiliary request lacked clarity under Article 84 EPC.
- II. With its grounds of appeal, the appellant maintained these requests and filed a new set of claims as auxiliary request 2.
- III. In response to the board's preliminary opinion, the appellant withdrew its previous requests and filed two amended sets of claims as new main and auxiliary requests with letter of 27 June 2019.
- IV. Following another short communication by the board commenting on the new requests on file, the appellant withdrew its request for oral proceedings with letter of 25 July 2019, and requested that the application be remitted to the examining division for further prosecution on the basis of one of the five new sets of claims filed with the same letter.
- V. With a fax dated 30 July 2019 it filed three further amended sets of claims.
- VI. Oral proceedings were held in the absence of the appellant, whose final requests were established as being that the decision under appeal be set aside and the case be remitted for further examination on the basis of the "New Main Request", filed with letter dated 25 July 2019, or alternatively, of one of:

- the "New First Auxiliary Request" or the "Second Auxiliary Request", both filed with letter dated 25 July 2019,
- the "Amended Second Auxiliary Request", filed with fax dated 30 July 2019,
- the "Third Auxiliary Request", filed with letter dated 25 July 2019,
- the "Amended Third Auxiliary Request", filed with fax dated 30 July 2019,
- the "Fourth Auxiliary Request", filed with letter dated 25 July 2019,
- the "Amended Fourth Auxiliary Request", filed with fax dated 30 July 2019.

VII. Claim 1 according to the **New Main Request** reads as follows:

*"1. A method of preparing a Group 1 metal/silica gel composition having a Group 1 metal or sodium-potassium alloy absorbed into the silica gel pores, comprising the steps of:
degassing a porous silica gel by heating said porous silica gel to 300°C in vacuum or 600°C or hotter in air;
mixing a liquid Group 1 metal or a liquid sodium-potassium alloy having a molar ratio of Na to K between 0.5 and 3.0 with said degassed porous silica gel at a temperature of 25°C ± 15°C under isothermal conditions in an inert atmosphere or under a vacuum to absorb the Group 1 metal or the sodium-potassium alloy into the pores of the silica gel thereby forming a black powder;
and heating the black powder to 140°C under an inert atmosphere with agitation."*

Claim 1 according to the **New First Auxiliary Request** differs from the above one as follows (amendments put in evidence by the board):

*"1. A method of preparing a Group 1 metal/silica gel composition [...] in an inert atmosphere or under a vacuum, **with agitation of the mixture** to absorb the Group 1 metal or the sodium-potassium alloy into the pores of the silica gel thereby forming a **free-flowing amorphous** black powder; [...]."*

The wording of claim 1 according to the **Second Auxiliary Request** differs from that according to the New First Auxiliary Request only in that it is limited to a method of preparing a Group 1 metal/silica gel composition having a **sodium-potassium alloy** absorbed into the silica gel pores.

Claim 1 according to the **Amended Second Auxiliary Request** reads as follows (amendment with respect to the Second Auxiliary Request put in evidence by the board):

"1. A method of preparing a Group 1 metal/silica gel composition having a sodium-potassium alloy absorbed into the silica gel pores, comprising the steps of: degassing a porous silica gel by heating said porous silica gel to 300°C in vacuum or 600°C or hotter in air; mixing a liquid sodium-potassium alloy having a molar ratio of Na to K between 0.5 and 3.0 with said degassed porous silica gel at a temperature of 25°C ± 15°C under isothermal conditions in an inert atmosphere or under a vacuum, with agitation of the mixture to absorb the sodium-potassium alloy into the pores of the silica gel thereby forming a free-flowing amorphous black powder; and

*heating the black powder to 140°C **overnight** under an inert atmosphere with agitation."*

Reasons for the Decision

1. Admittance of the New Main Request, New First Auxiliary Request and Second Auxiliary Request into the proceedings

1.1 Following the board's second communication issued on 8 July 2019, the appellant filed with letter dated 25 July 2019 these three requests without pursuing its previous ones.

1.2 Pursuant to Article 13(1) RPBA, the admittance of late filed requests lies within the Board's discretion, which has to be exercised in view of inter alia the current state of the proceedings, the complexity of the new subject-matter and the need for procedural economy.

Although these requests were very late filed, namely six days before oral proceedings, the board may in some cases still admit such request for reasons of procedural economy, in particular when the amendments render the request prima facie allowable, thus making immediately apparent that the amendments successfully remove the board's concerns without raising new issues (see Case Law of the Boards of Appeal of the EPO, 8th edition, 2016, page 1133, chapter IV.E.4.2.5, first paragraph).

1.3 In the present case, however, none of these requests were prima facie allowable since the New Main and New First Auxiliary Request reinstate in claim 1 the feature "Group 1 metals" which does not remove the

board's objection under article 84 EPC raised in point 2.2.1 of its communication of 21 March 2019.

- 1.4 Furthermore, claim 1 of none of these three new requests specifies the duration of the heating step of the claimed process, and so does not contain all essential features for arriving at the desired product (also called stage I material in the application as filed: see for example claim 9). Such claims are thus not apt to overcome the deficiency of lack of clarity identified in the decision under appeal (point 2.1, page 5, fourth and fifth full paragraphs and point 5.1).
- 1.5 Therefore, as the subject-matter of claim 1 of none of these requests is prima-facie allowable the board decided not to admit them into the proceedings (Article 13(1) RPBA).
2. Amended Second Auxiliary Request - Admittance
 - 2.1 Although this request was filed on 30 July 2019, i.e. one day before oral proceedings, its claim 1 differs from that of the Second Auxiliary Request in that it contains the additional word "*overnight*", and so it specifies the duration of the heating step.
 - 2.2 Pursuant to Article 13(1) RPBA, the admittance of late filed requests lies within the Board's discretion, but since in this case the request contains an amendment which prima facie overcomes all the clarity deficiencies identified in the decision under appeal and raised in writing by the board (see below), the board admitted it under these exceptional circumstances into the proceedings (Article 13(1) RPBA).

2.3 Clarity of claim 1

2.3.1 At variance with the claims upon which the examining division decided, the claim at issue does not contain any longer the unclear definitions of the products obtained after the first and second stages of the claimed process, i.e. "*Stage 0 [...] composition which reacts with dry O₂*" and "*Stage I [...] composition which does not react with dry O₂*" (point 2.1 of the decision under appeal and points 2.2.2 and 2.2.3 of the board's communication of 21 March 2019, and it does no longer contain the unclear alternative process route B (point 2.2 of the decision under appeal and point 2.2.6 of the board's communication of 21 March 2019).

The claim is instead defined by clear process steps leading necessarily to the products identified "Stage 0" and "Stage I" in the application as filed.

2.3.2 Moreover, the claim is limited to the use of sodium-potassium alloys having a Na to K molar ratio between 0.5 and 3.0, which are liquid at the temperature of the first stage of the process (see paragraph [0027] of the published application), and it specifies that the first step of the process is carried out under agitation, thus overcoming the deficiencies indicated in points 2.2.1 and 2.2.4 of the board's communication of 21 March 2019.

2.3.3 The duration of the first step including the mixing of the alloy with degassed porous silica gel at a temperature of 25°C ± 15°C under isothermal conditions in an inert atmosphere or under a vacuum and with agitation of the mixture to absorb the alloy into the pores of the silica gel is limited by the formation of a free flowing amorphous black powder, which

corresponds to the stage 0 composition according to the application (see paragraph [0040]).

Moreover, the duration of the heating in the second step of the process allowing formation of the stage I composition of the application (see paragraph [0048]) is specified to be "overnight".

Therefore, also the further deficiencies identified in paragraph 2.1 of the decision under appeal and in point 2.2.5 of the board's communication are overcome.

- 2.3.4 As regards the term "overnight", which indeed is vague as recognised in the decision under appeal (page 5, third full paragraph), the board remarks that according to established jurisprudence relative terms which may change their meaning according to the context may be considered clear and thus satisfy the requirements of article 84 EPC if their meaning is clear in the context of the whole disclosure (see Case Law of the Boards of Appeal of the EPO, 8th edition, 2016, page 281, chapter II.A.3.6, last full paragraph).

For the board the term "overnight" clearly means "several hours" and in particular a range of hours which the skilled person would consider to correspond to the duration of a night.

Furthermore, it is clear from the description of the application that the precise number of hours to which the product of the first step is heated in order to arrive at the so-called Stage I composition is not essential since the conversion from the so-called Stage 0 to the Stage I composition starts very early in the process and proceeds even without heating albeit

slowly, heating just accelerating the conversion (see paragraphs [0041], [0047] and [0048]).

Therefore, the term "overnight", even though not indicating a precise range of hours, it identifies sufficiently clearly the duration of the second step of the process leading to the desired Stage I composition.

- 2.3.5 For the board thus claim 1 at issue is prima facie clear and complies with the requirements of Article 84 EPC.
- 2.4 Compliance with the requirements of Articles 76(1) and 123(2) EPC
 - 2.4.1 The board observes that in point 1.1 of its decision the examining division acknowledged the amendments then carried out as being based "*on claims 27 and 28 of the parent application (present as embodiments 27 and 28 in the present divisional application), paragraphs [0030], [0038]-[0040], [0046] and [0048] (same paragraphs in parent and present divisional application)*".
 - 2.4.2 The board finds that claim 1 at issue is further supported by the application documents as filed as indicated in appellant's letter of 25 July 2019 (passage bridging pages 2 and 3), with paragraph [0048] containing in particular the basis for the additional term "overnight" in connection with the heating step of the process. Moreover, the disclosure in the present divisional application is identical to that of the parent application (EP04811935.8 filed as international application PCT/US/2004/039304).
 - 2.4.3 It follows that the amended claim 1 at issue also overcomes the only deficiency identified by the board

in its communication of 21 March 2019 (point 2.2.5) and complies with the requirements of articles 76(1) and 123(2) EPC.

3. Remittal

Since the decision under appeal dealt only with clarity, the board finds it appropriate to follow appellant's request to remit the case to the examining division (Article 111(1) EPC) for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution on the basis of claims 1-3 of the "Amended Second Auxiliary Request", filed with fax dated 30 July 2019.

The Registrar:

The Chairman:



L. Malécot-Grob

J.-M. Schwaller

Decision electronically authenticated