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Datasheet for the decision of 29 January 2020

Case Number: T 2129/16 - 3.3.06

Application Number: 09716095.6

Publication Number: 2252675

IPC: C11B13/00, C11B3/12, C07J9/00, C07B63/00

Language of the proceedings: EN

Title of invention:
Process for separating sterols and acids from tall oil pitch

Patent Proprietor:
Raisio Nutrition Ltd.

Opponent:
BASF SE

Headword:
Sterol separation from tall oil pitch/RAISIO NUTRITION

Relevant legal provisions:
EPC Art. 56, 108, 123(2)
EPC R. 99
RPBA 2020 Art. 13(1), 25
RPBA Art. 13

Keyword:
Admissibility of the appeal: yes
Admissibility of auxiliary request 5b: yes
Added subject-matter (auxiliary request 5b) : no
Inventive step (auxiliary request 5b): yes

Decisions cited:
T 2227/15, T 0032/16

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 2129/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 29 January 2020

Appellant: (Opponent)	BASF SE 67056 Ludwigshafen (DE)
Representative:	BASF IP Association BASF SE G-FLP-C006 67056 Ludwigshafen (DE)
Respondent: (Patent Proprietor)	Raisio Nutrition Ltd. P.O. Box 101 21201 Raisio (FI)
Representative:	Kirsch, Susan Edith Carpmaels & Ransford LLP One Southampton Row London WC1B 5HA (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 14 July 2016 rejecting the opposition filed against European patent No. 2252675 pursuant to Article 101(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 of the opponent (hereinafter the appellant) is against the decision of the opposition division to reject the opposition against European patent n° 2 252 675.

II. With its statement of grounds the appellant raised inter alia an objection of lack of inventive step (Article 56 EPC) against the claims as granted in the light of document **D1: US 6,780,831 B2.**

III. In its reply the patent proprietor (hereinafter the respondent) defended the patent as granted and filed nine sets of amended claims as auxiliary requests. It also contested the admissibility of the appeal.

IV. Following the board's preliminary opinion the respondent filed with letter of 29 November 2019 twenty sets of claims to be considered as auxiliary requests.

V. At the oral proceedings before the board the appellant objected to the admittance into the proceedings of inter alia auxiliary request 5b and argued that this request did not comply with the requirements of Articles 123(2) and 56 EPC. As regards inventive step, it started from D1 as representing the closest prior art and objected to only the alternative (iii) of its claim 1.

At the closure of the debate, the respondent confirmed that all the requests with a higher ranking than auxiliary request 5b were withdrawn.

VI. The final requests of the parties were as follows:

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

The respondent requested that the appeal be rejected as inadmissible or as an auxiliary measure that the patent be maintained in amended form on the basis of one of the auxiliary requests 5b, 5c, 5d, 6a, 6b, or 7 to 11 in the given order, all filed with letter of 29 November 2019.

VII. Claim 1 according to auxiliary request 5b reads as follows (amendments with respect to granted claim 1 put in evidence by the board):

"1. A process for recovering sterols and fatty and/or resin acids from tall oil pitch, comprising the steps of:

a) saponifying tall oil pitch to provide saponified tall oil pitch,
b) drying the saponified pitch to obtain dried saponified pitch,
c) subjecting the dried saponified pitch to a first high vacuum evaporation to obtain an unsaponifiable fraction as a distillate and a first residue,
d) optionally subjecting said distillate to a second high vacuum evaporation to obtain an enriched unsaponifiable fraction,
e) crystallizing sterols from the unsaponifiable fraction or the enriched unsaponifiable fraction,
f) acidulating the first residue obtained in step c) to obtain an aqueous phase and an organic phase, separating the aqueous phase and drying the organic phase to obtain a dried organic phase, and

g) subjecting the dried organic phase to vacuum distillation to obtain fatty and/or resin acids and a second residue,
said process additionally comprising providing pitch-based heavy components in the dried saponified pitch in an amount facilitating the first high vacuum evaporation, ***such that there is at least 20% by weight total pitch-based heavy components in the dried saponified pitch prior to step (c);***
wherein in a first process cycle, the pitch-based heavy components are provided by one or more of the following:
(i) adding a heavy fraction separated from tall oil pitch to the saponified pitch and/or to the dried saponified pitch;
(ii) adding tall oil pitch to the saponified pitch and/or to the dried saponified pitch; and
(iii) choosing a tall oil pitch naturally having a high content of said heavy components;
provided that no external softener is introduced into the process."

Reasons for the Decision

1. Admissibility of the appeal

As the respondent referred to its written submissions regarding this objection, the board sees no particular reason to diverge from its preliminary opinion, namely that the appellant has clearly exposed in its statement of grounds the facts and evidence upon which its request to revoke the patent was based. Even though its arguments may be predominantly a repetition of those already presented and found not convincing by the opposition division, their re-submission shows the appellant's disagreement with the conclusion drawn by

the opposition division and its intention to have a review of the decision under appeal (see also Case Law of the Boards of Appeal, 9th edition, V.A.2.6.6).

The appellant having also at least implicitly addressed some of the reasoning of the decision under appeal, the appeal thus complies with the requirements of Article 108 and Rule 99 EPC and is admissible.

2. Auxiliary request 5b - admittance into the proceedings

2.1 This request having been filed in reply to the board's communication of 12 September 2019 and well in advance of the scheduled oral proceedings, the board used its discretion to admit it into the proceedings for the following reasons.

2.2 According to Article 25(1) RPBA 2020 the revised version of the Rules of Procedure of the Boards of Appeal shall also apply to appeals already pending on the date of the entry into force, unless the exceptions given in Article 25(2) or (3) RPBA 2020 apply. Thus, according to Article 25(1) RPBA 2020, Article 13(1) RPBA 2020 applies to amendments made after the reply, whereas Article 13(2) RPBA 2020 according to Article 25(3) RPBA 2020 does not apply where the notification to oral proceedings - as in this case - has been notified before 1 January 2020. Instead Article 13 RPBA 2007 continues to apply. Thus, where the summons to oral proceedings or a Rule 100(2) EPC communication has been notified before 1 January 2020, Article 13(1) RPBA 2020 applies as well as Article 13(1) and (3) RPBA 2007 (T 2227/15, reasons 1; T 32/16, reasons 1.1).

2.3 Auxiliary request 5b is in essence identical to auxiliary request 2b filed before the opposition

division and resubmitted in reply to the statement of grounds, excepted the addition in claim 1 of the word "total" between "at least 20% by weight" and "pitch-based heavy components". This request is thus a slightly amended version of previous auxiliary request 2b, whose admissibility was not contested by the appellant and that the board held clearly admissible under Article 12(4) RPBA 2007, Article 25(2) RPBA 2020.

2.4 Furthermore, as required by Article 13(1) 3rd and 4th sentence RPBA 2020 the respondent clearly identified the amendments and demonstrated that they overcome the objections raised without giving rise to new ones. It further justified its late filing by stating that the request had been filed in reaction to the clarity objection raised in the board's communication.

2.5 As the above amendment is a reaction to the clarity objection that was raised for the first time in its preliminary opinion and since the amendment clearly overcomes this objection, the board, applying Article 13(1) RPBA 2020 as well as Article 13 RPBA 2007, has decided to admit this request into the proceedings.

3. Auxiliary request 5b - Article 123(2) EPC

3.1 The appellant contested the compliance of claim 1 at issue with the requirements of Article 123(2) EPC insofar as the amended claim requires that

- there is at least 20% by weight total pitch-based heavy components in the dried saponified pitch prior to step (c); and
- in a first process cycle, the pitch-based heavy components are provided by one or more of the following:

(i) adding a heavy fraction separated from tall oil pitch to the saponified pitch and/or to the dried saponified pitch;
(ii) adding tall oil pitch to the saponified pitch and/or to the dried saponified pitch; and
(iii) choosing a tall oil pitch naturally having a high content of said heavy components.

3.2 As argued by the respondent, the original documents of the application (in their version published as WO 2009/106696 A1) disclose (page 6, lines 15-28) that the amount of heavy components facilitating the first high vacuum evaporation (step(c) of the claimed process), i.e. those added to the dried saponified tall oil pitch and those naturally contained therein, thus the total thereof, should be at least 20% by weight of the dried saponified pitch. Moreover, the saponified tall oil pitch subjected to the high vacuum evaporation step (c) in the examples of the invention reported in table 1 has a total amount of heavy components which is more than 20% by weight.

Therefore, it is directly and unambiguously derivable from the application as filed that the total amount of pitch-based heavy components contained in the dried saponified tall oil pitch prior to step (c) should be at least 20% by weight.

3.3 Moreover, the original documents (page 6, line 13 to page 7, line 5) disclose that the pitch-based heavy components in the dried saponified tall oil pitch are provided by steps (i) to (v), taken individually or as a combination of two or more thereof. Whilst step (i) relates to a recirculation step and thus does not concern a first process cycle, all other steps (ii) to (v) are steps which can or must be carried out in a

first process cycle. In particular, steps (ii), (iii) and (iv) correspond to steps (i), (ii) and (iii) of claim 1 at issue.

3.4 Such steps are also disclosed individually in claims 3, 4 and 6 as filed and are applied individually or in some combination in the examples in order to provide the required pitch-based heavy components content in the dried saponified pitch before the first high vacuum evaporation step (c). Therefore, in the board's view, it is directly and unambiguously derivable from the original disclosure taken as a whole that the steps identified as (i), (ii) and (iii) in claim 1 at issue can be used individually or in combination in order to provide the required amount of at least 20% by weight of total pitch-based heavy components in the dried saponified pitch prior to the first high vacuum evaporation step (c).

3.5 The board thus concludes that claim 1 complies with the requirements of Article 123(2) EPC.

4. Auxiliary request 5b - Inventive step

4.1 Claim 1 relates to the recovering of sterol by means of high vacuum evaporation of tall oil pitch and separation of fatty and/or resin acids from the residue of such high vacuum evaporation step.

4.2 According to the patent in suit, in particular page 2, lines 17-18, a problem connected with such high vacuum distillation/evaporation technique is the very high melting point and viscosity of the distillation residue.

Paragraph [0013] of the patent acknowledges that the process disclosed in D1 already solved such a problem by adding a high molecular weight softener to the saponified pitch prior to the evaporation of unsaponifiables. These softeners were found to lower the viscosity of the residual saponified pitch and thereby facilitate the evaporation process.

Further, according to paragraphs [0014] and [0015], the invention is an improvement of this prior art process which provides an economical way to isolate sterol-containing fractions from pitch without the need for external softener chemicals, thereby reducing processing costs and avoiding a reduction of the reclamation value of the residue fractions as e.g. biofuel.

4.3 It is common ground between the parties that document D1 is a suitable starting point for the evaluation of inventive step and that the process disclosed in the combination of examples 1 and 2 represents the closest prior art.

4.4 The only inventive step objection raised by the appellant concerned the alternative (iii) in claim 1, i.e. a process wherein at least 20% by weight total pitch-based heavy components in the dried saponified pitch prior to the first high vacuum evaporation step (c) are provided by choosing a tall oil pitch naturally having a high content of heavy components.

Therefore only this alternative will be discussed in the following.

4.5 It is not in dispute that the process of D1, examples 1/2, differs from that of claim 1 at issue at least in

that it does not disclose the use in a first process cycle of a saponified tall oil pitch comprising at least 20% by weight of pitch-based heavy components provided by choosing a tall oil pitch naturally having a high content of heavy components.

4.6 The respondent defined the underlying technical problem, starting from D1, as the provision of a further process for isolating sterol-containing fractions from tall oil pitch which reduces processing costs and avoids a reduction of the reclamation value of the residue fractions as e.g. biofuel.

Example 3 of the patent relates to a process carried out by using a saponified tall oil pitch containing 30.9% by weight of total pitch-based heavy components, provided by choosing a tall oil pitch naturally having a high content of heavy components. This example clearly shows that sterol-containing fractions can be separated by high vacuum evaporation from saponified tall oil pitch without the need of adding a softener like the melted paraffin wax used in the closest prior art (column 6, lines 27-29), thereby reducing processing costs and avoiding a reduction of the reclamation value of the residue fractions.

Therefore, the board is convinced that the technical problem as defined by the respondent has been convincingly solved by the process as claimed encompassing the alternative (iii). This was not disputed by the appellant.

4.7 It remains to be decided whether it was obvious for the skilled person, faced with the above technical problem, to modify the closest prior art by not adding the melted paraffin wax to the saponified tall oil pitch

and by using instead a saponified tall oil pitch having at least 20% by weight of total heavy components provided by a tall oil pitch having naturally a high content of such heavy components.

4.7.1 The appellant submitted that the concentration of heavy components naturally present in a tall oil pitch may vary considerably and that in the prior art there existed tall oil pitch grades having the high amount of heavy components required in claim 1 at issue. This is not in dispute, as already acknowledged in point 39 the decision under appeal.

The appellant argued that D1 allowed the choice of any commercially available tall oil pitch grade. Therefore the skilled person trying commercially available tall oil pitch having different contents in heavy components would have directly recognised those grades that after saponification had a viscosity enabling an easy high vacuum evaporation and that could be used in the process of D1 without the addition of a softener such as the melted paraffin wax of example 1. The skilled person could have easily calculated the content of heavy components in such tall oil pitches and found that their content was in accordance with the requirements of claim 1 at issue. Therefore the alleged invention amounted merely in the obvious choice of commercially available tall oil pitch grades for which the technical problem addressed to in D1 did not exist.

4.7.2 The board notes that document D1 expressly discloses (column 1, line 61 to column 2, line 22) that tall oil pitch soaps are very viscous and difficult to handle, which disclosure is also reported in the patent in suit (paragraphs [0003], [0004] and [0006]). Moreover D1 teaches (column 3, lines 22-34) that this drawback

could be overcome by adding to the saponified tall oil pitch a so-called softener, i.e. a chemical compound having specific characteristics such as the melted paraffin wax of example 1, in order to reduce the viscosity of the saponified tall oil pitch and facilitate the high vacuum evaporation step needed for separating sterol fractions.

Document D1 however does not contain any hint that a similar result could be obtained just by choosing a particular tall oil pitch.

4.7.3 Therefore, the skilled person looking for alternatives to the addition of a melted paraffin wax for reducing the saponified pitch viscosity would rather have looked for other softener chemicals complying with the requirements listed in D1 (column 3, lines 26-34), such as those described in column 4, lines 44-53. In the board's conviction, in the absence of any teaching in the prior art or in common general knowledge, the skilled person could have looked for tall oil pitch grades having a high amount of heavy components - which are neither disclosed nor suggested in D1 - only with the knowledge of the teaching of the patent in suit. The board thus agrees with the decision under appeal that the appellant's argumentation was based on an ex-post analysis.

4.7.4 Therefore the skilled person would not have found in the teaching of D1 any hint to depart from the explicit teaching of this document to add a particular softener chemical and to look instead for particular grades of tall oil pitch not needing the addition of such a softener. Therefore the appellant's argument cannot succeed.

4.7.5 Consequently, the board concludes that the claimed subject-matter involves an inventive step (Article 56 EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent in amended form based on claims 1 to 13 of auxiliary request 5b filed with letter of 29 November 2019 and a description to be adapted thereto.

The Registrar: The Chairman:

A. Pinna J.-M. Schwaller

Decision electronically authenticated