Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [X] To Chairmen
(D) [-] No distribution

Datasheet for the decision of 17 January 2013

Case Number: T 1524/09 - 3.3.10

Application Number: 95924517.6

Publication Number: 718625

IPC: G01N30/48, C07B57/00, B01J20/32

Language of the proceedings: EN

Title of invention:
SEPARATING AGENT

Patentee:
DAICEL CHEMICAL INDUSTRIES, LTD.

Opponent:
Eka Chemicals AB

Headword:

Relevant legal provisions:
EPC Art. 108, 100(a), 56

Keyword:
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1524/09 - 3.3.10

D E C I S I O N
of the Technical Board of Appeal 3.3.10
of 17 January 2013

Appellant: (Opponent)	Eka Chemicals AB 445 80 Bohus (SE)
Representative:	Van Deursen, Petrus Hubertus Akzo Nobel N.V. Legal & IP P.O. Box 9300 6800 SB Arnhem (NL)
Respondent: (Patent Proprietor)	DAICEL CHEMICAL INDUSTRIES, LTD. No. 1-Banchi, Teppo-cho Sakai-shi, Osaka-fu 590 (JP)
Representative:	Grünecker, Kinkeldey, Stockmair & Schwanhäusser Leopoldstrasse 4 80802 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office concerning maintenance of the European Patent No. 718625 in amended form.**

Composition of the Board:

Chairman: P. Gryczka
Members: R. Pérez Carlón
F. Blumer

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal against the decision of the opposition division to maintain European patent No. EP 0 718 625 in amended form.

II. Notice of opposition had been filed by the appellant requesting revocation of the patent in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC).

Inter alia, the following documents were submitted during opposition proceedings:

D1: English translation of JP 62195395
D4: EP A 0 527 235

III. The opposition division decided that the only claim of the second auxiliary request then pending, which is identical to the main request before the board, fulfilled the requirements of the EPC. Said claim reads as follows:

"Use of a polysaccharide derivative having an Mw/Mn (wherein Mw and Mn represent the weight-average molecular weight calculated as polystyrene and the number-average molecular weight calculated as polystyrene, respectively), which indicates the extent of molecular weight distribution, of 1 to 3, wherein the polysaccharide is amylose, as a separating agent for optical resolution and wherein the polysaccharide derivative has a weight-average molecular weight, calculated as polystyrene, of 20,000 to 500,000."

IV. The opposition division considered document D4 as the closest prior art. D4 failed to disclose the feature Mw/Mn of 1 to 3. The problem to be solved by the

subject-matter claimed was improving the baseline stabilisation time, and the claimed solution was not obvious since the skilled person found no reason to combine the teaching of document D1 with the closest prior art D4 in order to solve said problem.

V. The opposition division issued on 9 March 2009 a communication pursuant to Article 101(1) and Rule 82(1) inviting the parties to file their observations within 2 months, which included in form 2906 the reasons for maintaining the patent in amended form. In response to this communication, the appellant filed on 19 May 2009 an appeal and paid the appeal fee.

The opposition division issued then a brief communication stating that the official action from 9 March 2009 had been dispatched by error, that it was declared null and void, and that the appeal fee would be refunded and the opposition procedure continued.

On 16 June 2009, the opposition division issued an interlocutory decision under Article 101(3)(a) and 106(2) EPC, against which the appellant filed again an appeal and paid the appeal fees in due time. The text in form 2916 of this decision was identical to the text in form 2906 of the official action issued on 9 March 2009.

VI. The appellant requested in writing that the decision from 16 June 2009 was declared null and void, and the appeal fee paid on 19 May 2009 deemed to have been payed on that date, irrespective of its refund.

Regarding inventive step, the appellant considered that the patent in suit provided the solution to two partial, unrelated, technical problems, namely

improving the baseline stabilisation time when carrying out optical resolution and providing an alternative polysaccharide as support for optical resolution.

Document D1 was the closest prior art for the first partial problem, since it inherently solved the problem of improving baseline stabilisation time by using a polymer with a narrow molecular weight distribution, which contained less low molecular weight polymer eluting from the separation column and thus rendering the baseline unstable. For the second problem, namely the provision of alternative polymers for optical resolution, the closest prior art was D4, which disclosed amylose as an alternative to cellulose.

The appellant further argued that the respondent relied on an effect only relevant for industrial optical resolution, which was not a feature of claim 1.

In addition, baseline stabilisation had to take place before optical resolution, whereas claim 1 only concerned the optical resolution per se and not the steps before or after it. For this reason, baseline stabilisation could not form part of the problem to be solved by the claimed invention.

Finally, the patent in suit, on paragraph [14], line 46, disclosed cellulose and amylose as equivalents.

For these reasons, the appellant concluded that the subject-matter of claim 1 was not inventive.

VII. The proprietor considered D4 as the closest prior art, since it was also directed to optical resolutions and the process disclosed there shared the largest amount of features with the subject-matter of claim 1. The

problem solved by the claimed invention was to improve the baseline stability, and the claimed solution was not obvious since none of the documents on file addressed this problem. Although D1 disclosed a molecular weight distribution Mw/Mn of 1 to 3, it was directed to a different polysaccharide (cellulose) and did not refer to supports for optical resolution. The claimed subject-matter involved thus an inventive step.

VIII. Oral proceedings took place before the board on 17 January 2013.

IX. The final requests of the parties were the following:
- The appellant requested that the decision under appeal be set aside and that the European patent No. 0 718 625 be revoked.
- The respondent requested that the appeal be dismissed.

X. At the end of the oral proceedings, the chairman announced the decision.

Reasons for the Decision

1. The appeal is admissible. This has not been contested by the respondent.

The board considers that the appellant has fulfilled the requirements of Article 108 EPC with respect to the official actions sent by the opposition division on 9 March 2009 and on 16 June 2009, since the notices of appeal have been filed and the fees payed in due time. Irrespectively from which of the two official actions is the valid decision, the appeal of the opponent would have been validly filed and the status of the patent proprietor as respondent would not change. For this

reason, it is not necessary to take a decision on which of these official actions of the opposition division represents the valid decision in the present case, since it would have no legal consequence on these appeal proceedings.

2. Inventive step, Article 56 EPC:

2.1 Closest prior art:

Document D4 which concerns, as in the patent in suit, optical resolution, and shares the largest amount of features with claim 1 represents the closest prior art.

D4 discloses as a separating agent for optical resolution (see page 2, lines 3 and 4) amylose (page 3, line 50) with a degree of polymerisation of 10 to 2000 (page 3, lines 54-55), which corresponds to a weight average molecular weight from ca. 1600 to ca. 325,000 and therefore strongly overlaps with the weight-average molecular weight defined in claim 1 of 20,000 to 500,000.

D4 fails to disclose a Mw/Mn of 1 to 3 required by claim 1.

2.2 The appellant considered that two partial technical problems had been solved by the subject-matter of claim 1, namely improving baseline stabilisation time and providing a saccharide derivative which could be used for optical resolution, and saw for each of them a different closest prior art, namely document D1 for improving the baseline stabilisation time and D4 for providing an alternative saccharide derivative.

However, document D4 already solves the problem of

providing an alternative saccharide to cellulose suitable for optical resolution in the same manner as claim 1 of the main request, namely by using amylose (see page 3, line 50). In addition, this document shares more features than D1 with the subject-matter of claim 1 and is intended for the same use. Therefore, when starting from document D4 as closest prior art, the alleged partial technical problem of providing an alternative saccharide is not a goal that the claimed invention intended to achieve. For this reason already, the line of argumentation of the appellant based on the definition of two partial technical problems fails.

3. Technical problem underlying the invention:

3.1 The technical problem underlying the claimed invention is to improve the baseline stabilisation time when performing optical resolution (see paragraph [8] of the patent in suit).

3.2 The appellant has argued that the baseline stabilisation time did not belong to the use as defined in claim 1, since it was a step carried out before the optical resolution took place. Therefore, the technical problem underlying the invention could not be improving the baseline stabilisation time.

However, the use of a support for optical resolution is not limited to the contact of the compounds to be separated with the column support, but also includes other technical steps required for said resolution, such as stabilising the baseline and detecting the fractions eluted. The baseline stabilisation is, therefore, linked to the use of the compound as a separating agent. These arguments must thus fail.

3.3 The appellant argued that the patent proprietor relied on an effect only relevant on industrial scale, whereas the subject-matter of claim 1 was not limited to such an industrial scale.

However, the improvement of the baseline stabilisation time is achieved independently from the separation scale. This argument must, therefore, also fail.

4. Solution:

The solution proposed in the patent in suit to solve the above defined technical problem is the use of an amylose characterised by a molecular weight distribution Mw/Mn from 1 to 3.

5. Success:

It has not been contested that the problem is solved, and the board has no reason to depart from this view in the light of the results provided in table 1 of the patent in suit, which showed that amylose supports with the required Mw/Mn from 1 to 3 have a baseline stabilisation time an order of magnitude shorter that an amylose with Mw/Mn of 5.29.

6. Finally, it remains to be examined whether the claimed solution was obvious for the person skilled in the art:

6.1 Document D4 does not address the problem of baseline stabilisation time and is silent about molecular weight distribution, let alone about its influence on the baseline stabilisation time. For this reasons, the subject-matter of claim 1 is not obvious with respect to document D4 alone.

6.2 Document D1 discloses the parameter Mw/Mn from 1 to 3 as required by claim 1. However, document D1 refers to cellulose, a different polysaccharide than amylose required by claim 1, and does not mention baseline stability, since D1 does not address chromatography, let alone optical resolution. On page 8 of its English translation it states that

"Since the low molecular weight cellulose carbamates, acylated celluloses and cellulose ethers obtained as described above are high in solubility and low in viscosity, it is expected that they can be easily loaded into carriers such as silica, to provide homogeneous separation fillers with high quality."

This paragraph discloses fillers, which includes not only chromatography supports but also, for example, supports for filtrations. Furthermore, this passage refers to the properties of the polymer, and not of the fillers, in which said compound is attached to a support such as silica gel.

Similarly, on page 2, lines 9-12 document D1 states:

"in the case where any of them is adsorbed by or chemically bonded to a carrier such as silica gel, a separating filler easy to produce and excellent in quality stability can be obtained"

As in the previous passage, this sentence refers to fillers, which is a broader term than chromatography supports, and mentions quality stability, which is different from baseline stabilisation.

Therefore, the skilled person would not combine the teaching of D1 with that of the closest prior art

document D4 for improving the baseline stabilisation time without the knowledge of the invention.

The subject-matter of claim 1 is for this reasons not obvious for the skilled person having regard to the state of the art.

6.3 The appellant has argued that it was expected that the compounds described in D1 would improve the baseline stabilisation period, since it was general knowledge that the baseline stabilisation time was dependent on the amount of low molecular weight compounds present.

However, no evidence in this respect has been provided by the appellant. D1 merely discloses that cellulose (not amylose) with a Mw/Mn from 1 to 3 has "low viscosity, high solubility and uniformly long molecular chains" (page 2, lines 9-12), and a relationship between this properties and a shorter stabilisation time is not evident having regard at the state of the art on file. This argument must, therefore, be rejected.

6.4 The appellant has argued that the patent in suit disclosed (paragraph [14], line 46) amylose and cellulose as equivalents. The skilled person would for this reason combine the teachings of documents D4 and D1.

However, the patent in suit does not represent state of the art for the invention, and does not disclose these polysaccharides as equivalent, but as preferred. Additionally, even if, *arguendo*, these compounds were equivalent, there is no reason why the skilled person would choose amylose with an Mw/Mn from 1 to 3 with the aim of reducing the baseline stabilisation time.

This argument, therefore, fails to persuade the board.

6.5 Thus, the board concludes that the claimed subject-matter involves an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

C. Rodríguez Rodríguez P. Gryczka

Decision electronically authenticated