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**Datasheet for the decision  
of 2 December 2021**

**Case Number:** T 0660/16 - 3.3.09

**Application Number:** 06123437.3

**Publication Number:** 1785039

**IPC:** A23K1/18, A23K1/00, A23J3/00

**Language of the proceedings:** EN

**Title of invention:**  
Pellets of vegetable protein

**Patent Proprietor:**  
Cargill, Incorporated

**Opponents:**  
Tereos Syral  
Roquette Frères

**Headword:**  
Pellets of vegetable protein/CARGILL

**Relevant legal provisions:**  
EPC Art. 107, 87(1), 89, 114(2), 106(2), 54(2), 56  
EPC R. 117, 118, 122

**Keyword:**

Admissibility of appeal - party adversely affected by decision  
Priority - basis in priority document (no) - validity of  
priority date (no)  
Taking of evidence - admissibility of evidence (yes) -  
evaluation of evidence - public prior use  
Novelty - availability to the public  
Inventive step - (no)

**Decisions cited:**

T 0545/08, T 2003/08, T 0768/20



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

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 0660/16 - 3.3.09

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.09**  
**of 2 December 2021**

**Appellant:**  
(Patent Proprietor)

Cargill, Incorporated  
15407 McGinty Road West  
Wayzata, MN 55391 (US)

**Representative:**

Forresters IP LLP  
Skygarden  
Erika-Mann-Straße 11  
80636 München (DE)

**Appellant:**  
(Opponent 1)

Tereos Syral  
ZI Portuaire  
BP 32  
67390 Marckolsheim (FR)

**Representative:**

Regimbeau  
20, rue de Chazelles  
75847 Paris Cedex 17 (FR)

**Appellant:**  
(Opponent 2)

Roquette Frères  
62136 Lestrem (FR)

**Representative:**

Plasseraud IP  
66, rue de la Chaussée d'Antin  
75440 Paris Cedex 09 (FR)

**Decision under appeal:**

**Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
14 July 2015 concerning maintenance of the  
European Patent No. 1785039 in amended form.**

**Composition of the Board:**

<b>Chairman</b>	A. Haderlein
<b>Members:</b>	F. Rinaldi
	F. Blumer
	M. Ansorge
	D. Rogers

## Summary of Facts and Submissions

- I. This decision concerns the appeals filed by the patent proprietor and opponents 1 and 2 against the interlocutory decision of the opposition division that European patent No. 1 785 039 as amended met the requirements of the EPC.
- II. All the parties to the opposition proceedings appealed against the decision. For simplicity, they will be referred to by their party position before the opposition division.
- III. With the notice of opposition, opponents 1 and 2 requested that the patent be revoked based on, *inter alia*, Article 100(a) EPC (lack of novelty and lack of inventive step).

The documents submitted during the opposition proceedings include:

- D1: EP05256938 (priority document)
- D3: Product specification: "Amytex 106"  
("Effectivity date: 14.02.2006 ...  
Printed on: 30.03.2012")
- D4: Invoice Tate & Lyle Europe N.V. (19 May 2006)
- D6: N.N., "Codex standard for wheat protein products including wheat gluten" (Codex Stan 163-1987, Rev. 1-2001)
- D12: C.S. Tucker *et al.* (editors), "Biology and Culture of Channel Catfish", Elsevier B.V., 2004, chapter 12.4.2

- D14: M. Thomas *et al.*, "Physical quality of pelleted animal feed. 2. contribution of processes and its conditions", *Animal Feed Science Technology*, 64, 1997, 173-192
- D21: C. Lin *et al.*, "Water Stability of Shrimp Pellet: A Review", *Asian fisheries science*, 7, 1994, 115-127
- D23: C.C. Maningat *et al.*, "Wheat gluten in food and non-food systems", *aib Research Department Technical Bulletin*, XVI(6), June 1994, 1-8
- D31: Contract confirmation Tate & Lyle Europe N.V. (No. 300032646 /31 March 2006)
- D34: Extract of statement of account: Tate & Lyle Europe N.V. (9 June 2006)
- D35: Bill of lading (18 May 2006)
- D36: Excerpt from correspondence by email (21 September 2006)
- D37: Product specification: "Amytex 106" ("Effectivity date: 07.02.2006 ... Printed on: 09.02.2006")
- D38: Invoice Tate & Lyle Europe N.V. (original, 26 July 2006)  
Extract of statement of account Tate & Lyle Europe N.V. (10 August 2006);  
Bill of lading (24 July 2006)
- D39: Invoice Tate & Lyle Europe N.V. (original, (21 September 2006)  
Extract of statement of account Tate & Lyle Europe N.V. (6 October 2006)  
Bill of lading (5 September 2006)

IV. In the decision under appeal, the opposition division decided that the main request (claims as granted) lacked novelty but that the first auxiliary request was allowable.

V. On appeal, the patent proprietor filed seven auxiliary requests (first to seventh) with its statement setting out the grounds of appeal, and the following document:

P1: B.A. Minor *et al.*, "Comparison of infra-dry and AOAC methods for moisture in food products",  
Journal of Food Protection, 47(8), 1984,  
611-614

The second auxiliary request was later withdrawn.

VI. The following claims are relevant to the decision:

Claim 1 as granted (main request) reads as follows:

"A pellet having a moisture content not greater than 11.5% the dry substance of which pellet consists essentially of compressed proteins wherein the compressed proteins comprise vital wheat gluten said pellet being obtained by a process which comprises the steps

- a) feeding the proteins comprising vital wheat gluten into a pre-conditioning device;
- b) providing, into the device, heated air or steam to increase the temperature of the proteins and/or the moisture content with 0 to 5%, preferably up to 3% by weight of the dry proteins;
- c) pouring the heated proteins through a die for obtaining pellets; and
- d) collecting the pellets

wherein the die has a ratio (A) of thickness to diameter of from 5 to 25."

Claim 1 of the first auxiliary request, which the opposition division found to be allowable, is based on claim 1 as granted and includes the following feature:

"characterised in that at least 15 weight% of the proteins of step a) have a particle size of 200 µm or more"

In claim 1 of the third auxiliary request the moisture content is restricted to a maximum of 10%.

In claim 1 of the fourth auxiliary request the moisture content is restricted to from 6% to not greater than 11.5%.

In claim 1 of the fifth auxiliary request the moisture content is restricted to from 6% to a maximum of 10%.

In claim 1 of the sixth auxiliary request the moisture content is restricted to from 6% to a maximum of 10% and the following feature is added:

"and wherein the temperature of step b) is selected such that the ratio (B) of the temperature to (A) is from 2 to 18"

In claim 1 of the seventh auxiliary request the compressed proteins are defined as consisting essentially of vital wheat gluten.

VII. The patent proprietor's arguments relevant to the decision can be summarised as follows.

- During proceedings before the opposition division, the patent proprietor had not withdrawn or



abandoned the main request (patent as granted).  
Thus its appeal was admissible.

- The priority of EP 05256938 (D1) was validly claimed. In view of the common general knowledge confirmed in D23 and P1, the moisture content of claim 1 as granted was implicitly disclosed in D1.
- As regards the hearing of the witness, the opposition division should not have heard him because no deposit of an advance payment had been made on time. Moreover, the patent proprietor had not been aware of what the witness was supposed to attest to.
- As to the public prior use, the opposition division had not applied the correct standard of proof (beyond reasonable doubt). There were contradictions in the written evidence provided and in the witness's submissions. Nor was it directly and unambiguously disclosed that the product of the public prior use was a pellet with compressed proteins and with the moisture content set out in claim 1.
- The main request involved an inventive step. The product of the public prior use was not suitable as the closest prior art.
- Pellets made with proteins having the particle size distribution of claim 1 of the first auxiliary request were distinguishable from those made with proteins having a different particle size distribution. Moreover, the pellets of claim 1 showed improved durability. The evidence for this was the results of the Holmen test filed with the reply.
- The third to seventh auxiliary requests defined preferred aspects of the invention.

VIII. The arguments of opponents 1 and 2 relevant to the decision can be summarised as follows.

- The patent proprietor had abandoned the main request, and for this reason its appeal was not admissible.
- The priority was not validly claimed. D1 did not, even implicitly, disclose the moisture content of claim 1 as granted.
- The patent proprietor had no reason to contest the hearing of the witness before the opposition division. Moreover, the patent proprietor had been informed what the witness was supposed to attest to.
- The witness had conclusively explained the circumstances of the public prior use. The product of the public prior use disclosed all the features of claim 1 as granted, in particular the moisture content.
- The main request lacked inventive step. The skilled person would know that the moisture content of a pellet could be adjusted by drying, even at the end of the production process.
- As to the first auxiliary request, the particle size distribution of claim 1 was not a further distinguishing feature. Moreover, the patent proprietor's test was not suitable for demonstrating a distinguishing feature. Therefore claim 1 lacked inventive step.

IX. Parties' final requests

The patent proprietor requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims as granted (main request) or any one of the first, third, fourth, fifth, sixth or seventh auxiliary requests, all the auxiliary requests being filed with the statement setting out the grounds of appeal.

Opponents 1 and 2 requested that the decision under appeal be set aside and that European patent No. 1 785 039 be revoked.

**Reasons for the Decision**

1. *The patent*

The patent relates to pellets of dry vital wheat gluten that are used e.g. in fish feed. The pellets are described as stable upon transportation and upon storage. In particular, they show no moulding during long-term storage (paragraphs [0001] and [0016]).

2. *Admissibility of the patent proprietor's appeal*

2.1 Opponent 1 argued that, during the oral proceedings before the opposition division, the patent proprietor did not indicate that it was maintaining its main request (patent as granted). It followed from this that the patent proprietor had abandoned the main request and that it was not entitled to file an appeal against the opposition division's decision.

2.2 However, there is no record on file, in particular in the minutes of the oral proceedings, that the patent proprietor had withdrawn or abandoned the main request. In contrast, in the decision under appeal (Reasons for the decision, points 2.3 to 2.5) the opposition division reasoned why claim 1 of the patent as granted lacked novelty. This shows that the main request was in the proceedings and had not been withdrawn or abandoned.

2.3 Thus the patent proprietor is adversely affected by the opposition division's decision and there is no reason to consider its appeal inadmissible (Article 107 EPC).

### 3. *Priority*

3.1 The opposition division decided that the patent in suit did not validly claim priority from the earlier European patent application, D1. In its view, the moisture content of claim 1 as granted was not derivable from D1. The opposition division concluded that the effective date of the patent in suit was its date of filing, 3 November 2006.

3.2 The patent proprietor contested this decision. It argued that the description of D1, read together with the common general knowledge (D23 and P1), implicitly disclosed the moisture content of claim 1 as granted.

3.3 On this line of argument, the board set out the following in points 6.5 to 6.6 of its communication under Article 15(1) RPBA 2020:

"6.5 *The patent proprietor's reasoning does not appear to be convincing.*

6.5.1 The patent proprietor regarded D23 as the common general knowledge on the (average) moisture content of (vital) wheat gluten. However, one may equally consider that it is D6 that represents the skilled person's common general knowledge on this matter, as did the opposition division in the decision under appeal. D6 shows that the moisture content of wheat protein product which includes vital wheat gluten does not exceed 10% (page 1, point 3.2.1). The maximum moisture content which the skilled person would derive from D1 and D6 would be up to 15%. Already on this basis, even taking into account the common general knowledge, there is no direct and unambiguous disclosure of a pellet having a moisture content of not greater than 11.5% in D1.

6.5.2 Moreover, adding moisture in an amount of 0 to 5% by weight of dry protein is disclosed in D1 in the context of a pre-conditioning step (page 3, last two paragraphs), which corresponds to step b) described in granted claim 1. The pre-conditioned mixture is then conveyed into a press equipped with die holes for obtaining pellets (D1, page 4, first paragraph), which corresponds to step c) of granted claim 1. However, there is no direct and unambiguous disclosure that the pellet at the end of the process, after it is collected from step d), has a moisture content not greater than 11.5%.

6.6 Thus, it appears that the subject-matter of claim 1 does not relate to the same invention as D1 and is not entitled to priority (Article 87(1) EPC). It follows from this that the effective date for the subject-matter of claim 1 is the date of filing of the patent ..."

3.4 The patent proprietor made no further submissions in relation to the validity of the priority.

3.5 Therefore the board has no reason to review its preliminary opinion, and concludes that the subject-matter of claim 1 is not entitled to priority (Article 87(1) EPC). The effective date for the subject-matter of claim 1 is the date of filing of the patent in suit (Article 89 EPC), 3 November 2006.

4. *Hearing of the witness before the opposition division*

4.1 At the oral proceedings on 3 February 2015, the opposition division, enlarged by the addition of a legally qualified examiner, took evidence by hearing of the witness, Mr. Paul de Pauw. The witness's evidence is recorded in the minutes of the taking of evidence.

4.2 On appeal, the patent proprietor argued that the opposition division should not have heard the witness. In its view, the opposition division had made the hearing of the witness conditional upon opponent 1 making a deposit of an advance payment which, however, had not been made in time.

Opponent 1 argued that the opposition division's decision to hear the witness could not be contested.

4.3 Contrary to the view of opponent 1, the board has to examine the patent proprietor's request to review the correctness of this part of the opposition division's decision. An order to take evidence is neither an appealable decision under Article 106(1) EPC nor an interlocutory decision allowing a separate appeal within the meaning of Article 106(2) EPC. Instead, it

is a case-management measure that precedes a substantive decision and cannot be reviewed as long as the proceedings are still pending. The review may occur once a substantive decision (in this case the opposition division's interlocutory decision referred to at point I. above) is issued (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, Chapter V.A. 2.2.2 b) (xiii)).

4.4 On the substance of the patent proprietor's lines of argument, the board set out the following in its communication (points 7.4.1 to 7.5):

*"7.4.1 The opposition division has the discretion to consider evidence which is provided after the commencement of the opposition proceedings (Article 114(2) EPC). In this case, the opposition division deemed it necessary to consider the evidence (i.e. to hear a witness) which opponent 1 offered during the opposition proceedings. With date of 11 August 2014, the opposition division issued an order to take evidence by hearing the witness in accordance with Rule 117 EPC and it summoned the witness in accordance with Rule 118 EPC.*

*7.4.2 The taking of evidence was made conditional upon opponent 1 making a deposit of an advance payment to secure payment of the costs arising from any possible reimbursement of the witness. Alternatively, a waiver of cost signed by the witness could be filed. The order further states that the 'deposit/waiver should be made/filed within **one month** from notification of this order.'* (bold text in the original)

*The advance payment is not an administrative fee. Requesting an advance payment (or a waiver of costs) is*

*part of the EPO's case management when witnesses are heard. The EPO uses the deposit to reimburse the witness for the costs it may incur such as travel, subsistence and compensation of loss of earnings (Rule 122(1) to (4) EPC). Failure to provide the advance payment in time does not have any direct and immediate legal consequence. Neither the EPC nor the order itself states such a legal consequence.*

*7.4.3 The patent proprietor argued also that there was no record in the public part of the file that the witness would be present for the taking of evidence and that it had the expectation that the witness would not be heard at the oral proceedings.*

*However, the apparent failure of the witness to react to the summons to taking of evidence under Rule 118 EPC, does not appear to be relevant. It is manifest from the order to take evidence that the opposition division had the intention to hear the witness. The patent proprietor had to expect that at the oral proceedings the witness, if present, would be heard, as had been the case in T 2003/08 (Reasons for the decision, points 31 to 33).*

*7.4.4 The patent proprietor alleged that before the oral proceedings and before the taking of evidence it had not been aware of what the witness was supposed to attest to.*

*This is not persuasive. On page 2 of the order to take evidence, the matter on which evidence was to be taken is set out, in particular the specific circumstances relating to the sale and delivery of the product P5106 AMYTEX 106 and features of the allegedly sold product and whether members of the public not being under an*



*obligation of secrecy could acquire knowledge of the relevant features.*

*Therefore, the patent proprietor was or at least should have been aware, before the oral proceedings and before the taking of evidence, what the witness was supposed to attest to.*

*7.4.5 The patent proprietor finally referred to some board of appeal decisions ... and argued that the witness had been used to fill factual gaps in the evidence.*

*However, the present case relating to the prior use turns around the written evidence filed as D4 and D31 to D39. Hearing of witnesses is explicitly foreseen in Article 117(d) EPC as a means of evidence. Although the function of a witness is to corroborate what has been alleged and not to fill in the gaps in facts, additional clarifications provided by a witness to close a potential gap in the documentary evidence on file cannot be considered per se new facts; hearing a witness would otherwise be futile (Case Law of the Boards of Appeal of the EPO, 9th edition, 2019, Chapter III.G.2.2.1).*

*Moreover, neither the patent proprietor's statement of grounds of appeal nor its submissions filed under cover of a letter dated 12 September 2016 appear to explain what are the facts that the patent proprietor regards as being introduced into the proceedings by the witness to fill gaps. In its statement setting out the grounds of appeal, the patent proprietor also states 'in fact the oral testimony did not appear to add any further information that was missing from the written evidence' (page 9, fourth paragraph).*

7.5 *Thus, the board cannot identify any flaws in the hearing of the witness and sees no reason to disregard on appeal the evidence provided by the witness, in particular the minutes of the taking of evidence."*

4.5 The patent proprietor made no further submissions on this issue.

4.6 The board has no reason to review its preliminary opinion. Therefore it concludes that the witness's evidence, in particular the minutes of the taking of evidence, is part of the appeal proceedings.

5. *Public prior use*

5.1 In the decision under appeal, the opposition division arrived at the conclusion that the witness, Mr Paul de Pauw, was credible and that the product involved in the public prior use (Amytex 106) anticipated the subject-matter of the granted claim 1.

5.2 The patent proprietor contested this decision. It argued as follows.

- The opposition division had not sufficiently considered that the evidence of the public prior use was solely from within the sphere of the opponents, namely opponent 1. The correct standard of proof to be applied was the one known as "beyond reasonable doubt".
- There was a doubt that the product had been sold to the customer because the contract (D31) was not signed. Moreover, there were contradictions between the amounts of product shipped and those specified in the contract.

- According to the witness, Amytex 106 had changed over time. Therefore any reference to the product's name was not evidence of a specific nature of the product.
- The nature of the product allegedly shipped had not been demonstrated beyond reasonable doubt. There was no direct and unambiguous disclosure that the product was a pellet consisting essentially of compressed proteins and that it had the moisture content called for in claim 1.

### 5.3 Circumstances of the public prior use

- 5.3.1 The sales of the product Amytex 106 in May 2006 (and July and September of the same year) to Ewos A/S (Norway) are relevant to the public prior use. Amytex 106 was produced and sold by Tate & Lyle Europe N.V. (Belgium), for which the witness worked as a sales director. Tate & Lyle Europe N.V. has since been merged into the business of opponent 1, Tereos Syral.
- 5.3.2 Thus it can be argued that the evidence regarding the features of the product sold, including the witness's submissions in the minutes of the taking of evidence, is from within the sphere of the opponents. This holds true up to the moment when the product was handed over to the customer, Ewos A/S.
- 5.3.3 However, at the oral proceedings opponent 1 explained that Ewos A/S is now owned by the patent proprietor, Cargill Inc. The patent proprietor did not contest this. Opponent 1 maintained that all evidence of the composition of the product that was sold, including any analytical data of the product, was in the patent proprietor's hands.

5.3.4 The board has to consider all these circumstances when assessing the facts and the evidence surrounding the public prior use.

5.3.5 In the present case, it is not helpful to give a name to the applicable standard of proof. Rather, the board agrees with T 768/20 (point 2.1.2 of the reasons) that:

*"the practical relevance of the distinction between 'the balance of probabilities' standard and the 'beyond reasonable doubt' standard is often overestimated. Both standards are only fulfilled if the deciding body is persuaded that the alleged fact is true, which is not a matter of 'just tipping the balance slightly' (see decision T 545/08, point 8 of the reasons)".*

As to the applicable standard of proof, the board also agrees with the latter decision that the relevant point is that:

*"the facts on which any finding of public availability is based must be established with a sufficient degree of certainty in order to convince the competent organ of the EPO in view of all the relevant evidence that they have indeed occurred" (T 545/08, point 11 of the reasons).*

5.3.6 With this in mind, the board will assess the sale of the product of the public prior use and the alleged inconsistencies in the witness's submissions, and then determine the features of the product involved in the public prior use.

5.4 Sale of the product of the public prior use

5.4.1 Document D31 relates to a contract between Tate & Lyle Europe N.V. and Ewos A/S. It is dated 31 March 2006 and concerns the sale of a product sold under the name "P5106 Amytex 106". The contract bears the signature of the Sales Director Feed Europe, Paul de Pauw, but not of the customer. Among other things, D31 discloses that:

- the contract number is 300032646
- the product is described, among other things, as follows:
  - "Vital Wheat Gluten pellets in bulk"
  - "Minimum 83% protein on as is basis"
  - "Minimum of 4.5% fat, as is"
  - "Free of Salmonella according to Norwegian regulations"
- the total quantity of the sales is 2 250 000 kg ("CTO")
- the delivery term of the contract specifies "FOB BRUGGE" and three dates (1 May 2006; 1 July 2006; 1 September 2006), each involving a quantity of 750 000 kg ("CTO")

5.4.2 While the customer has not signed the contract, the board has no doubt that the sale took place. Evidence of this is that a substantial quantity of product was handed over to the customer, who in return settled the invoice in good time.

In detail, a bill of lading (D35) shows that on 18 May 2006 a quantity of 453 250 kg of vital wheat gluten pellets in bulk was loaded on a cargo ship ("Vessel: MV Stako") in the port of Bruges. Under cover of a letter dated 19 May 2006, Tate & Lyle Europe N.V.

sent an invoice (D4) to Ewos A/S. The invoice indicates the amount of money to be paid for the quantity of pellets of 453 250 kg. On 9 June 2006, the requested payment was transferred to an account of Tate & Lyle Europe N.V. (D34). Two more sales of vital wheat gluten involving a total quantity of about 1 000 000 kg took place in July and September 2006 (D38 and D39).

- 5.4.3 In addition, the witness has explained that the quantity of product delivered is not always as indicated in the contract. The actual loading weight depends on whether enough pellets are available in time or the ship has sufficient storage room. The delivery term "FOB BRUGGE" (i.e. free on board, Bruges) means that the customer offers the ship in Bruges for transporting the pellets. The product is the customer's responsibility from the moment it is loaded on the ship in Bruges.

There is no reason to question the credibility of the witness on these statements. This will be discussed below in point 5.5.

- 5.4.4 Finally, the sale is also confirmed by a chemical analysis of the product sold in May 2006. The analysis was made by September 2006, and Ewos A/S was in possession of the results of the analysis. This is shown in the correspondence by email (D36). This piece of evidence will be discussed below in point 5.6, in which the features of the product of the public prior use are established.

- 5.4.5 Therefore the board is convinced that the product Amytex 106 was made available to the public by the sale in May 2006, i.e. prior to the effective date of the patent.

- 5.5 Alleged inconsistencies in the witness's submissions
- 5.5.1 The patent proprietor identified some inconsistencies within the witness's submission. According to the minutes of the taking of evidence (e.g. page 11), the witness stated that the product Amytex 106 was still sold, and that the production process had changed "to be outside the patent of Cargill". The patent proprietor argued that these submissions showed that the composition of the product sold under the name Amytex 106 can change over time. Any reference to the product's name was not evidence of a specific nature of the product, other than that it is a pelletised vital wheat gluten.
- 5.5.2 However, the question on which the witness was primarily heard is the circumstances relating to the process of selling and delivering the product Amytex 106 in 2006. Whether the product had changed when the witness was heard in 2015 is not relevant. Although the witness submitted that the production process had changed, this does not mean that both the product itself and its specification had changed. Furthermore, it is reasonable to assume that any such change would have occurred only after publication of the patent in suit (or the patent application on which it is based), not before.
- 5.5.3 The patent proprietor argued that a product Amytex 106 was not retrievable in a Google search. In its view, this contradicted the witness's submissions that Amytex 106 was still sold on the market.
- 5.5.4 Again, this is not relevant. The question to be answered is simply whether Amytex 106 was sold in

May 2006 (and in July and September 2006, before the date of filing of the patent). The result of the patent proprietor's search in Google carried out in 2015 does not have any bearing on this assessment.

5.5.5 It can be concluded that the alleged inconsistencies do not concern the process of how the product in question was sold and delivered to the customer, Ewos A/S. Therefore the board has no reason to doubt the witness's submissions made in connection with the sales of the product in 2006.

5.6 Features of the product of the public prior use

5.6.1 Having concluded that the witness is credible and that the product Amytex 106 was made available to the public by the sale in May 2006, the next question to address is the composition of the product.

5.6.2 The patent proprietor disputed that the product of the public prior use

(a) discloses the moisture content called for in claim 1

(b) consists essentially of compressed proteins

5.6.3 As to point (a), the evidence on file relevant for establishing the moisture content of the product of the public prior use is two product specifications of Amytex 106 (D3 and D37) and an email to Tate & Lyle Europe N.V. (D36).

- D3 is marked on page 1 as "obsolete" (top of the page) and as "Revision 01 ... Latest Revision: 09" (bottom, right hand corner). D3 is dated 14 February 2006 but was printed on 30 March 2012.



D3 describes some properties of the product, e.g. that it is intended for feed applications and that it consists principally of wheat gluten obtained during the separation of starch. Moreover, D3 includes a table, headed "Characteristics", which lists product parameters of Amytex 106. The table discloses several target values, in particular the microbial contamination and minimum and maximum values of some constituents. From this table it can be derived that the:

- moisture is between 3 and 8.5%
  - crude protein is at least 83%
  - crude ash is up to 1.5%
  - crude fat is at least 4.5%.
- D37 is marked on page 1 (bottom, right hand corner) as "Revision 00 ... Latest Revision: 00" and is dated 7 February 2006. D37 describes the same properties of the product as D3 (intended for feed applications; consists principally of wheat gluten obtained during the separation of starch) and includes under the header "Characteristics" a table of parameters identical to that of D3. However, the table comprises handwritten annotations, according to which the amount of protein is "82-81%" and the moisture content is between 5 and 12%. There is no indication when and where the handwritten annotations were added.
- D36 relates to an excerpt from correspondence by email. D36 refers to the contract number of D31 and the details of the bill of lading (D35) and discloses the results of a chemical analysis of the vital wheat gluten pellets shipped in May 2006. According to the results, the product delivered did not match the required minimum content of 83%

protein and 4.5% fat set out in the contract. Instead, the product's protein content was 81.1% and the fat content was 3.9%. Furthermore, a reaction from Tate & Lyle Europe N.V. was requested: ("Ewos would very much appreciate y[ou]r comments to the above").

- 5.6.4 The patent proprietor argued that the protein content of the analysed product of D36 corresponded to the handwritten annotations in D37 in which the crude protein content was from 82 to 81%. In view of this, it maintained that there was doubt as to whether the moisture content was between 3 and 8.5% (as printed in D37) or 5 and 12% (as in the handwritten annotations in D37). Thus a product covered by the product specification D37 was not unambiguously within the scope of claim 1: it could have a moisture content of 11.5 to 12%, or even above.
- 5.6.5 Based on the evidence D3, D37 and D36, the following observations can be made.
- On the face of it, D37 is the first version of the product specification and D3 is an amended version which was printed later. In addition, D3 specifies that Amytex 106 is pelletised.
  - Both documents disclose the same product characteristics and that Amytex 106 consists principally of wheat gluten obtained during the separation of starch.
  - By the time D3 was printed in 2012, several revisions of the product specification had occurred. However, the board has no reason to doubt that the Amytex 106 sold in May 2006 was a pellet of vital wheat gluten, as set out in the contract D31.

- Of D3, D37 and D36, the latter can be seen to be the only documentary evidence disclosing the parameters of the product that was actually sold in May 2006.
- D36 shows that the product shipped comprises a high concentration (81.1%) of protein. Thus a first conclusion that can be drawn is that the product consists essentially of proteins.
- Although D36 refers to shortcomings of the product shipped compared with contractual values, it does not mention deficiencies regarding moisture content, macroscopic properties (e.g. stickiness) and microbial contamination of the pellet.
- The analysed product of D36 comprises 15% of components other than fat and protein. As set out in the minutes of the taking of evidence (page 14), the remaining components of the vital wheat gluten pellet include ash, starch, sugar and moisture. D23 confirms that wheat gluten comprises these components. Therefore it can be concluded that the moisture content of the product shipped was well below 15%.
- It may even be assumed that within the considerable quantity of product shipped in May 2006 some samples would have the moisture content required by claim 1.

5.6.6 Nevertheless, the board accepts that it cannot be determined what the moisture content of the product of the public prior use as a whole was, i.e. the average moisture content across all the pellets in the batch shipped in May 2006. Thus it cannot be unambiguously concluded that the moisture content was not greater than 11.5%, let alone what the precise moisture content was.

- 5.6.7 As to point (b), claim 1 is drafted as a product-by-process claim. In the decision under appeal, the opposition division examined the process features of claim 1, i.e. those relative to steps a) to d) and to the dimension of the die used. It concluded that these features merely re-stated that the product was an acceptable pellet of compressed proteins having the typical form and having retained the vitality of wheat gluten. It continued that forming a pellet by definition involved compressing - thus a pelleted protein was a compressed protein.
- 5.6.8 The patent in suit does not give a more specific definition of the term "compressed proteins". Nor does it explain what has to be done to ensure that compressed proteins are obtained. The patent describes no particular measures apart from preparing the pellet. Thus there is no reason to give the term "compressed proteins" in the opposed patent a different meaning than the opposition division did: a pelleted protein is a compressed protein.
- 5.6.9 For completeness, it is also observed that the product consists essentially of proteins, as explained above in point 5.6.5.
- 5.7 In conclusion, having considered the facts and evidence concerning the public prior use, the board is convinced that the product involved is a pellet which discloses all the features of claim 1 except for the moisture content.

6. *Main request - novelty*

It follows from what has been said so far that claim 1 of the main request is novel over the product of the public prior use (Article 54 EPC).

7. *Main request - inventive step*

7.1 Inventive step of claim 1 of the patent as granted is assessed starting from the vital wheat gluten pellet of the public prior use as closest prior art. This product is rich in protein, suitable for shipping and used in feed applications.

7.2 The patent proprietor argued that the product of the public prior use was defective prior art. The skilled person would not know under what conditions the product had been produced and would have no information on how to prepare an alternative product.

However, as explained above, the product of the public prior use would have been available to the skilled person in May 2006. There is nothing that would prevent the skilled person from using a real product, with all its features established above, as the closest prior art.

7.3 The only distinguishing feature over the product of the public prior use (i.e. the closest prior art) is the moisture content called for in claim 1.

7.4 The patent in suit discloses no technical effect for the moisture content of claim 1. Nor is there any indication that this value is somehow critical. On the contrary, according to the application as filed the pellet's moisture content may even be up to a maximum

of 12% (page 3, second paragraph). In other words, according to the application as filed, any moisture content up to 12% provides suitable pellets. No additional effect is disclosed, let alone demonstrated, when the moisture content falls into the more restricted range called for in claim 1, in particular when compared to the moisture content of the closest prior art, which is considered to be well below 15% (see point 5.6.5 above).

In view of this, the only technical problem that can be formulated is the provision of a further pellet.

7.5 As the opponents explained, the skilled person would know how to adjust the moisture content of pellets. This may be done even at the end of the production process (e.g. D14, pages 187 and 188). Furthermore, the prior art discloses that the moisture content of pellets for use in feed applications is typically adjusted to approximately 10% (e.g. D12, chapter 12.4.2; D21, page 119).

7.6 The patent proprietor argued that the cited prior art was not concerned with vital wheat gluten pellets but with pellets of blended ingredients.

However, these documents were cited to demonstrate that a moisture content in the range called for in claim 1 is conventional in the art of pellets. The board fails to see an inventive step in adjusting the moisture content to a range that is conventional in the field of manufacturing pellets and that is not associated with a technical effect.

7.7 Therefore the subject-matter of claim 1 does not involve an inventive step. Article 100(a) EPC in

conjunction with Article 56 EPC prejudices maintenance of the patent as granted.

8. *First auxiliary request*

8.1 The first auxiliary request is identical to the first auxiliary request of the decision under appeal. Claim 1 of this request differs from claim 1 as granted in that the feature "characterised in that at least 15 weight% of the proteins of step a) have a particle size of 200 µm or more" has been added.

8.2 The opposition division decided that this feature rendered the product distinguishable over products in which this feature of the manufacturing process was not defined. In its view, "the coarse protein material will be discernible in the product to some degree".

8.3 Claim 1 is drafted as a product-by-process claim. The feature added to claim 1 defines the manufacturing process for preparing the pellet of claim 1, not the product in its own right. In particular, the added feature defines the particle size distribution of the protein used at the beginning of the process for preparing the pellet. Nevertheless, the opposition division has not explained what the facts or considerations were that led it to conclude that the coarse protein material would be discernible, even at the end of the manufacturing process. Thus the board cannot confirm the decision on this aspect.

8.4 The parties disagreed as to whether the feature added to claim 1 provided a further distinction over the closest prior art.

- 8.5 The patent proprietor referred to a test to demonstrate that the added feature provided a difference and a technical effect over the closest prior art. The test was intended to show that pellets manufactured with proteins having the particle size distribution of claim 1 have superior properties, in particular improved durability according to the Holmen test. The patent proprietor explained that the test was carried out with "pellets produced according to the invention but with varying weight percentages of particles having the characterising technical feature of particle size of 200  $\mu\text{m}$  or more".
- 8.6 Although the patent proprietor referred to a test, its results are presented only in the form of a line chart found on page 8 of the patent proprietor's reply to the opponent's grounds of appeal. The information given does not make it possible to understand what the particle size distribution of the pellets that were subjected to the test was. Nor does the line chart show the durability value (Holmen test) that corresponds to pellets produced with a specific particle size distribution. In addition, there is no information on the moisture content of the pellets used in the tests.
- 8.7 Based on the test data, the board cannot conclude that the added feature, i.e. the particle size distribution, constitutes a (further) distinguishing feature over the pellets of the public prior use. In view of this, it is not necessary to examine whether the technical problem of providing improved durability is derivable from the application as filed or from the patent.
- 8.8 Therefore, for the same reasons as set out above for the main request, the first auxiliary request does not involve an inventive step (Article 56 EPC).



9. *Third to seventh auxiliary requests*

9.1 Claim 1 of the third, fourth and fifth auxiliary requests defines a restricted range of the moisture content. All these requests encompass a moisture content ranging from 6% to a maximum of 10%.

9.1.1 As explained above in points 7.3 and 7.4, the patent does not set out any technical effect, let alone an advantage, for the restricted range of the moisture content of these requests. In particular, there is no basis for making a distinction, e.g. in terms of technical effects achieved, between a moisture content of above 10% and a moisture content of a maximum of 10%. The skilled person would be aware of the suggestion to work in the region of approximately 10% and would not be deterred from working within a moisture content of exactly 10% or (slightly) below this value.

9.1.2 Therefore the subject-matter of claim 1 of the third, fourth and fifth auxiliary requests would be obvious to the skilled person.

9.2 Claim 1 of the sixth auxiliary request specifies a moisture content from 6% to a maximum of 10% and a temperature of step b) selected such that the ratio (B) of the temperature to (A) is from 2 to 18.

9.2.1 As explained above, the moisture content does not confer an inventive contribution on the subject-matter of the claim, and it would have been obvious to work in the claimed range.

9.2.2 In its written submissions, the patent proprietor argued that selecting the temperature of step b) such that the ratio (B) of the temperature to (A) is from 2 to 18 provides pellets in which gluten is still vital.

However, it is not apparent to the board that the added feature gives rise to an additional technical effect. The closest prior art already concerns vital wheat gluten pellets.

9.2.3 Therefore the subject-matter of claim 1 of the sixth auxiliary request would be obvious to the skilled person.

9.3 In claim 1 of the seventh auxiliary request it is specified that the compressed proteins consist essentially of vital wheat gluten.

9.3.1 However, this is so for the pellets of the closest prior art as well. As explained above, D3 and D37 disclose that Amytex 106 consists principally of wheat gluten, and D36 confirms that the pellets shipped in May 2006 comprised a high concentration (81.1%) of protein. Thus the product of the public prior use involves pellets in which the compressed proteins consist essentially of vital wheat gluten.

9.3.2 Therefore the added feature does not provide a further distinguishing feature over the closest prior art. For the same reasons as set out above for the main request, claim 1 of the seventh auxiliary request would be obvious to the skilled person.

9.4 Therefore the third, fourth, fifth, sixth and seventh auxiliary requests do not involve an inventive step either (Article 56 EPC).

## 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:



A. Nielsen-Hannerup

A. Haderlein

Decision electronically authenticated