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**Datasheet for the decision
of 12 September 2006**

Case Number: T 0514/04 - 3.3.09

Application Number: 96107778.1

Publication Number: 0743016

IPC: A23K 1/16

Language of the proceedings: EN

Title of invention:
Feed additive

Patentee:
Ajinomoto Co., Inc.

Opponent:
Archer-Daniels-Midland Company

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 83, 99(1), 100(a)
EPC R. 29(4), 55(c)

Keyword:
"Fresh ground for opposition (yes)"
"Admissibility of fresh ground in appeal (no - disapproval of
patentee)"
"Sufficiency of disclosure (yes)"
"Novelty (yes)"
"Inventive step (no)"

Decisions cited:
G 0009/91, G 0010/91, G 0007/95, G 0001/95

Catchword:
-



Case Number: T 0514/04 - 3.3.09

D E C I S I O N
of the Technical Board of Appeal 3.3.09
of 12 September 2006

Appellant: Archer-Daniels-Midland Company
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Respondent: Ajinomoto Co., Inc.
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 9 February 2004
rejecting the opposition filed against European
Patent No. 0743016 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P. Kitzmantel
Members: N. Perakis
K. Garnett

Summary of Facts and Submissions

I. Mention of the grant of European patent No 0 743 016 in respect of European patent application No 96107778.1 in the name of AJINOMOTO Co., Inc., which had been filed on 15 May 1996 claiming a JP priority of 16 May 1995 (JP 116227/95), was announced on 19 December 2001 (Bulletin 2001/51). The patent, entitled "Feed additive", was granted with five claims, product Claims 1 to 4 and process Claim 5, independent Claims 1 and 5 reading as follows:

"1. An amino acid feed additive obtainable by a process comprising mixing a granular feed additive containing from 30 to 90% by weight, on the dry basis, of amino acid(s) with fine particles of a caking preventive selected from the group consisting of silica gel, sucrose fatty acid ester, glycerin fatty acid ester, branched amino acid, calcium salt, magnesium salt, aluminum silicate, magnesium oxide, alumina, zeolite, diatomaceous silica, perlite, disodium hydrogen phosphate and mixtures thereof, the mixing ratio of which is from 0.1 to 5% by weight to the granular feed additive characterized in that the bulk density of the granular feed additive is from 400 to 800 kg/m³, the content of the granular feed additive of particles having a particle size of from 300 to 5000 µm is from 80 to 95% by weight to the total weight of the granular feed additive, and that the fine particles of the caking preventive have a 50-% mean diameter of from 1 µm to 50 µm."

"5. A process for producing amino acid feed additive according to any of the claims 1 to 4, comprising the following

- preparing a granular feed additive from a powder and/or a solution containing amino acid(s),
- mixing the granular feed additive with fine particles of a caking preventive."

Claims 2 to 4 were dependent, directly or indirectly, on Claim 1.

II. A Notice of Opposition was filed against that patent by Archer-Daniels-Midland Company on 19 September 2002. The Opponent requested the revocation of the patent in its full scope, relying on Article 100(a) EPC (lack of novelty of Claim 5 and lack of inventive step of Claims 1-5) and Article 100(b) EPC (insufficient disclosure of the subject-matter of Claim 5 across its whole scope).

The Opposition was *inter alia* supported by the following documents:

D1: EP-A-0 678 246

D2: US-A-4 996 067

D3: EP-A-0 615 693

D4: Anticaking Agents, Foods and Food Production Encyclopedia, D.M. Considine and G.D. Considine, Van Nostrand Reinhold Company, 1982, pages 45 to 47, 2187, 2189, 2190, 2220 and 2247

D6: Flow Conditioners and Anticaking Agents, M. Peleg and A.M. Hollenbach, Food technology, March 1984, pages 93 to 102

D7: Anticaking Agents, Encyclopedia of Chemical Technology, ed. Kirk-Othmer, 1994, vol. 11, page 809.

III. By its decision orally announced on 16 December 2003 and issued in writing on 9 February 2004 the Opposition Division rejected the opposition.

The Opposition Division held in the appealed decision that the subject-matter of Claim 5 incorporated all the features of the starting products of Claims 1-4 and was consequently sufficiently clear and complete for it to be carried out by a person skilled in the art. It concluded that the process of Claim 5 was also novel over D1 or D2, neither of which disclosed all the features of the granular feed additive and the caking preventive. With regard to the inventive step, it decided that the subject-matter of the claims was not obvious over D3, the closest state of the art, which disclosed the claimed granules but not their admixture with the claimed caking preventive. It considered that the skilled person starting from D3 and aiming at the production of a feed additive having reduced caking tendency would not have considered the addition of known caking preventive compounds, such as those disclosed *inter alia* in D4, since D3 militated against the admixture of caking preventives into the feed granules.

IV. On 8 April 2004 the Opponent (Appellant) lodged an appeal against the decision of the Opposition Division and paid the appeal fee on the same day.

In the Statement setting out the Grounds of Appeal filed on 21 June 2004, the Appellant raised for the first time a novelty objection against the subject-matter of Claims 1 to 4 on the basis of D2, which in the light of the attached affidavit of Dr. Manfred Peisker (D15) was said to disclose all the features of the claims. Furthermore, the Appellant maintained the objection of lack of novelty of Claim 5 on the basis of either D1 or D2 in view of its interpretation of this claim, according to which the claim did not comprise the limiting features of Claims 1 to 4. It objected to the inventive step of the subject-matter of all claims, considering either D2 or D3 as the closest state of the art, taking as the technical problem to be solved the provision of a feed additive having a reduced caking tendency, and arguing that the claimed solution was obvious because the specified caking preventives were well-known in the state of the art, as for instance from D4 and D7. The Appellant also maintained the objection that the subject-matter of Claim 5 was not sufficiently disclosed over the whole scope of the claim.

- V. With its submission dated 12 July 2004 DEGUSSA AG filed observations under Article 115 EPC. It essentially argued that the claimed subject-matter lacked an inventive step in view of the disclosure of D3 in combination with Degussa's Brochure entitled "Schriftenreihe Pigmente", 3rd edition, April 1990 (D16) which disclosed the use of a number of the "inventive" caking preventives as additives for animal feed products.

- VI. In a letter of reply dated 10 January 2005 the Respondent requested that the appeal be dismissed and the patent be maintained as granted (Main Request) or on the basis of only Claims 1 to 4 as granted (Auxiliary Request), and that the third party's observations as well as the affidavit of Mr. Peisker D15 be rejected. The Respondent stated that the novelty objection raised against Claims 1-4 for the first time in the appeal proceedings was a fresh ground for opposition in the sense of the Enlarged Board of Appeal decisions G 9/91 and G 10/91 (OJ EPO 1993, 408 and 420) which should not be admitted. It defended the novelty of the subject-matter of Claim 5 over D1 or D2 on the basis that the reference in Claim 5 to Claims 1 to 4 introduced the limitations of the starting materials specified therein. Concerning inventive step, it argued that D3 should be considered as the closest state of the art, that the objective technical problem was to provide amino acid feed additives having reduced caking tendency and that the claimed solution was not obvious even when taking into consideration the prior art documents D4, D6 and D7. It finally argued that Claim 5 was sufficiently disclosed.
- VII. In a letter dated 14 August 2006 the Appellant essentially repeated its previous arguments and replied to the arguments of the Respondent. It also submitted a declaration of Mr. Timothy Aydtt dated 17 July 2006 (D17) and an excerpt from the Chemical Engineer's Handbook, R.H. Perry and C.H. Chilton, 5th ed, Mc Graw-Hill Book Company, pages 8-57 to 8-65 (D18).
- VIII. On 12 September 2006 oral proceedings were held before the Board.

IX. The arguments put forward by the Appellant in its written submissions and at the oral proceedings can be summarized as follows:

- The novelty objection, raised in the appeal proceedings against Claims 1 to 4, was not a fresh ground for opposition, since a novelty objection had originally been raised against independent process Claim 5 and since the lack of novelty of the claimed process resulted in the lack of novelty of the products obtained by that process. In this respect the Appellant relied on G 9/91, G 10/91 and G 7/95 (OJ EPO, 1996, 626).
- The subject-matter of Claim 5 lacked novelty both in view of D1 and D2 because the reference back to Claims 1 to 4 could not be construed as limiting its scope for the reason that the feed additive of Claims 1 to 4 was very broadly defined, essentially by using a product-by-process terminology.
- Even if the reference back to Claims 1 to 4 were construed to limit the subject-matter of Claim 5, it would still lack novelty in view of D1 or D2, the latter in the light of D15 and D17.
- The subject-matter of Claim 1 lacked an inventive step over the combination of D3 with any of D4 to D7 and D16. While the amino acid feed additives of D3 did not disclose that the granular feed additive was mixed with a caking preventive, the skilled person considering D3 as the closest state

of the art and seeking to inhibit the caking tendency of the granules caused by their inherent hygroscopicity, would find the solution in any of D4 to D7 and D16, which not only disclosed caking preventives of the chemical structure and the particle size of those used according to present Claim 1, but also the teaching to mix them into food substances in the claimed proportions.

- The subject-matter of Claim 1 also lacked an inventive step starting from D2 as closest state of the art even if it were supposed that either the claimed bulk density of the granular feed additive or the claimed content of the granular feed additive with the specific particle size or even the specific mean diameter of the 50-% of the fine particles of the caking preventive were not inherent in D2. Relying on D15 and D17, the Appellant argued that all these features were conventional and that the skilled person would use them in the context of D2 for economical reasons.

- The process of Claim 5 lacked sufficiency of disclosure because it encompassed any process comprising mixing a granular feed additive with a caking preventive. Even if the reference to Claims 1 to 4 in Claim 5 was considered to have a limiting character, the product-by-process features of Claim 1, which restricted the additive of Claim 1 only in that the latter was "obtainable" thereby, could not be supposed to define the process conditions of Claim 5 because the wording in Claim 5, namely "Process for producing amino acid feed additive according to

any one of the claims 1 to 4", made reference to the broader defined product, the subject-matter of Claim 1, encompassing a wider choice of process conditions.

X. The Respondent essentially argued as follows:

- The novelty objection against Claims 1 to 4 raised by the Appellant for the first time in appeal proceedings should not be admitted into the proceedings because it was a fresh ground for opposition. The novelty objection previously raised concerned exclusively independent Claim 5, the scope of which was interpreted by the Appellant to be broader than the scope of independent Claim 1. If the Board disagreed with the Respondent, it was requested that the case be remitted to the first instance in order to have this objection examined at two levels.

- The subject-matter of Claim 5 should be construed with the incorporation of the features of the starting materials on the basis of the reference back to Claims 1 to 4, which limited the scope of the claim, which was thus novel over D1 and D2. The novelty of the product Claims 1 to 4 was indirectly acknowledged by the Appellant, who had not originally raised a novelty objection against them.

- D17 should not be allowed in the proceedings as late filed.

- The subject-matter of Claim 1 was not obvious over D3, the closest state of the art, in combination with any of D4 to D7. Document D3, which successfully solved the same technical problem of inhibiting the granules' tendency to cake, taught away from the mixing of the granules with fine particles of a caking preventive. Furthermore, the skilled person would not have considered the combination of documents D4 to D7 with D3 because they did not disclose that the caking preventives were suitable for amino acid feed additives.

- The subject-matter of Claim 1 was also not obvious over D2. This document could not be considered as the closest state of the art because it dealt with another technical problem, namely how to let the biologically active substances pass through the rumen without being decomposed by micro-organisms, and because the amino acid feed additives differed structurally from those of the claimed invention.

- The subject-matter of Claim 5 was sufficiently disclosed because it was limited to the features mentioned in Claim 1 and therefore the caking preventives referred to in Claim 5 were those recited in Claim 1.

XI. The Appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

The Respondent requested that the appeal be dismissed or, alternatively, that the patent be maintained on the

basis of Claims 1 to 4 of the auxiliary request filed with the submission dated 10 January 2005.

Reasons for the Decision

1. The appeal is admissible.
2. *Admissibility of a fresh ground for opposition in appeal*
 - 2.1 The Board considers that the novelty objection raised for the first time in the appeal procedure against the product Claims 1 to 4 is a fresh ground for opposition which cannot be taken into consideration as the Respondent (Patentee) did not give its approval.

In order to reach this decision the Board examined the legal framework of the present case, which pursuant Rule 55(c) EPC is defined by (i) the extent to which the patent was actually opposed and (ii) the grounds upon which it was opposed as set out in the notice of opposition. The Appellant in the notice of opposition contested the patentability of all granted claims under Article 100(a) EPC, and supported this by different arguments against each independent claim. It argued that independent product Claim 1 was more restricted in respect of the process requirements than independent Claim 5 and that its subject-matter lacked an inventive step, while independent process Claim 5 was broader in respect of the process requirements than independent Claim 1 and lacked novelty and/or inventive step, depending on the applicable state of the art. The fact that lack of novelty of Claims 1 to 4 was not a ground

of opposition is explicitly recorded in paragraph 3.5 of the decision under appeal.

In the Headnote of the Enlarged Board of Appeal decisions G 9/91 and G 10/91, to which the Respondent referred, it is stated that a Board of Appeal has the power to examine and decide on the maintenance of a European patent under Articles 101 and 102 EPC depending on the extent to which the patent is opposed in the notice of opposition pursuant to Rule 55(c) EPC (Headnote of G 9/91) and that the Board is not obliged to consider all the grounds for opposition referred to in Article 100 EPC, going beyond the grounds covered by the statement under Rule 55(c) EPC (Headnote of G 10/91). This decision makes it clear that a fresh ground for opposition may be considered in appeal proceedings only with the approval of the patentee.

G 7/95 (consolidated with G 1/95), further developing the concept underlying the term "grounds of appeal" as used in the above G-decisions, decided that lack of novelty and lack of inventive step are two separate grounds of opposition within the scope of Article 100(a) EPC. G 7/95 also draws attention to the special situation where the closest prior art document is novelty destroying, with the consequence that a finding of lack of novelty inevitably results in lack of inventive step of the subject-matter concerned (Headnote; Reasons 7.2).

On the basis of the above mentioned case law and account being taken of the facts that D1 is a document relevant only under Article 54(3) and (4) EPC, and that D2 is far from qualifying as closest prior art document

(see section 2.4 below), the Board concludes that the novelty objection against Claims 1 to 4 raised by the Appellant for the first time before the Board of Appeal is a fresh ground for opposition which cannot be considered in the context of the present appeal since the Respondent did not give its approval.

- 2.2 The Board does not agree with the Appellant's argument that the ground for lack of novelty was not a fresh ground as a novelty objection had originally been raised against Claim 5.

In the Board's judgment, the extent and ground for opposition mentioned in Rule 55(c) EPC are connected in the sense that (a) specific claim(s) is/are objected to under a specific ground or grounds. It is inadmissible without the approval of the patentee to extend the opposition over and above this basic concept, which defines both the extent to which the patent was originally opposed (cf G 9/91) and the grounds originally submitted with respect to the subject-matter opposed under Article 99(1) and Rule 55(c) EPC (cf G 10/91).

- 2.3 Additionally, the Board does not agree with the argument of the Appellant that the lack of novelty objection originally raised against Claim 5, relating to a process for the preparation of a product, also extended to the products obtained from this process, including the products of Claims 1 to 4, and that consequently the lack of novelty objection raised against Claims 1 to 4 was not a fresh ground for opposition.

On the basis of the facts of the present case, the Board notes that before the Opposition Division the Appellant contested Claims 1 to 4 only for lack of inventive step. This is in logical agreement with its reasoning concerning the alleged lack of novelty of the process of Claim 5 because this attack started from the assumption that Claim 5 did not comprise the limitations of Claim 1, resulting in the broader scope of Claim 5 making it vulnerable for lack of novelty. In the Board's judgment this reasoning is tantamount to a recognition of the novelty of the subject-matter of Claim 1.

In arguing in the appeal proceedings that Claims 1 to 4 lacked novelty because the products of these claims were directly obtainable from a process which lacked novelty, the Appellant adopted an interpretation of the subject-matter of Claim 5 contrary to that advanced before the Opposition Division. However, this new interpretation cannot bring about a change of the original scope of the opposition as set out in section 2.2 above.

2.4 Finally the allegation that Claims 1 to 4 lacked novelty in view of D1 and D2 is not to be taken into account in the context of deciding upon the ground of lack of inventive step in the sense of G 7/95 because neither of these documents qualifies as the closest prior art; D1 is a document which is relevant only under Article 54(3) and (4) EPC and is thus legally irrelevant under Article 56 EPC, and D2 is basically concerned with feed additives which are protected against decomposition in the rumen of a ruminant (column 1, paragraph 1), an object unrelated to that

underlying the present invention (caking prevention of feed granules) and not an appropriate starting point therefore for the assessment of inventive step.

3. *Sufficiency of disclosure (Article 83 EPC)*

The Board, in agreement with the Respondent and the Opposition Division, considers that the subject-matter of Claim 5 is sufficiently disclosed.

The Board notes that the Appellant's objection is based on an interpretation of the subject-matter of Claim 5 different from that of the Respondent. It is therefore necessary to define the subject-matter of this claim.

According to its wording, Claim 5 relates to a process for producing an amino acid feed additive. By the reference back to Claims 1 to 4 the claim specifies that the amino acid feed additives concerned are those according to any of Claims 1 to 4. The process of the claim is defined by two steps: the first is the preparation of a granular feed additive from a powder and/or a solution containing amino acid(s) and the second is the mixing of the granular feed additive with fine particles of a caking preventive.

The two process steps themselves leave no room for misunderstanding. The issue under consideration is, however, whether or not, by the reference back in Claim 5 to Claims 1 to 4, the granular feed and the fine particles of the caking preventive are limited to the product-by-process features cited in Claims 1 to 4.

The Board shares the view of the Respondent and the Opposition Division and concludes that, on a fair interpretation of the purpose of the reference back, which can only be the limitation of the process of Claim 5 to the preparation of feed additives resulting from the measures to be taken according to Claims 1 to 4, said reference necessarily introduces the product-by-process features of Claims 1 to 4 into Claim 5, thus *inter alia* limiting the definition of the granular feed additive and the fine particles of the caking preventive of Claim 5 to the product-by-process definitions given in these claims.

The practice of referring back to previous claims is frequently used in the interests of conciseness in order to avoid repetition of features of these claims (cf. Guidelines for Examination in the EPO, point C-III,3.7a: "a claim may also contain reference to another claim even if it is not a dependent claim as defined in Rule 29(4) EPC").

This conclusion is not altered by a consideration of the statement to which the Appellant referred in the same part of the Guidelines, namely that "the examiner should carefully consider the extent to which the claim containing the reference necessarily involves the features of the claim referred to and the extent to which it does not", because this warning cannot detract from the above interpretation, which relies on the very essence of the whole specification, reflected in Claim 1, as opposed to a formalistic linguistic dissection neglecting this crucial aspect.

4. *Novelty (Article 54 EPC)*

The only question at issue in this respect is whether the subject-matter of Claim 5 is anticipated by the cited prior art, particularly D1 or D2. In the Board's judgment, it is not.

4.1 *Novelty over D1*

D1 (Claim 1; example 1), which is state of the art under Article 54(3) and (4) EPC, discloses a process for the preparation of a granular additive composition for ruminant feed comprising the preparation of spherical granules containing L-lysine hydrochloride and the coating of the granules with a composition comprising talc powder, the talc being known in the art as a caking preventive.

The Board notes that D1 does not disclose mixing of the granules with the talc powder; on the contrary it discloses their coating with a protective coating composition, which comprises the talc powder.

Furthermore, the spherical granules and the talc powder of D1 are not disclosed to have all the features of the claimed granular feed additive and the fine particles of the caking preventive required by present Claim 1. For instance, there is no disclosure either of the bulk density of the granular feed additive or of the 50-% mean diameter of the talc particles. Consequently the claimed process is new over the disclosure of D1.

4.2 Novelty over D2

4.2.1 D2 (column 2, lines 11-16; column 3, lines 9-17 and 58-65; column 7, lines 21-23; column 8, lines 31-34 and 42-46) discloses a process for the preparation of a feed additive for ruminant feed which comprises coating granulated cores containing an acid salt of a basic amino acid, eg L-lysine hydrochloride, with a first coating layer followed by a coating with a second coating layer. The second coating layer may contain a caking preventive but the amount is not specified in the general part of the description. The Appellant has not argued that any particular example discloses a value falling within the claimed range of 0.1 to 5% by weight to the granular feed additive. The Board remarks that examples 1 and 2 of D2 disclose talc powder, a known caking preventive, in the second (outermost) coating in amounts which can be calculated and which are respectively 32% and 13% by weight of the granular feed additive with the first coating, these amounts being much larger than those claimed.

Consequently, in view of this difference the claimed process is novel over the disclosure of D2.

4.2.2 This conclusion is not affected by the Appellant's argument that Claim 5 lacked novelty in view of the preparation process of the intermediate product of D2, i.e. the granulated cores with a first coating layer (column 3, line 58 to column 5, line 28). The Board does not consider that the fine powdered substances, used to form the first coating of the granulated core, should be understood as caking preventives (notwithstanding that their chemical structure makes

them theoretically appropriate for this purpose) because their function in the composition of the first coating is to protect the granulated core in the rumen of the ruminants and not to inhibit the caking of the granulated particles due to the innate hygroscopicity of L-lysine hydrochloride. In the context of D2, in order for a compound to have an anti-caking effect and act as caking preventive (the term "fusion-preventing agent" is used in D2: column 8, lines, 31-34), it should not only have a specific chemical structure, but it should be used in the outermost coating of the granule, which is the second coating, and be used in amounts which are higher than those claimed in the patent in suit (cf reference to examples 1 and 2 in the preceding paragraph).

4.2.3 Since the subject-matter of Claim 5 is novel over D2 on the basis of the difference mentioned in section 4.2.1 above, it is not necessary to examine the diverging interpretations of this document put forward by the parties with regard to an inherent disclosure of the granular feed bulk density, the content of the granular feed additive of particles having a particle size of from 300 to 5000 μm , the 50% mean diameter of the fine particles of the caking preventive, or the relevance of D15 and D17.

5. *Inventive step*

5.1 Closest state of the art

Concerning the inventive step of the subject-matter of all claims, the Board concurs with the Opposition Division and the Respondent, who both considered D3 to

represent the closest state of the art as this document discloses granular feed additives for animals and a method for preparing them, which additives comprise amino acids in the amount required by the claimed invention and have the required bulk density and particle size (page 3, line 19 to page 4, line 11). The technical effects obtained by the additive of D3 consist of a reduced hygroscopicity, a better flowability and a reduced caking (page 5, lines 21 to 23 and 41 to 44), which are also the objectives aimed at by the claimed invention (paragraphs [0001], [0007] and [0070]).

5.2 Problem to be solved and its solution

The technical problem set out in the opposed patent is the provision of a modified feed additive having an improved anti-caking tendency during long storage. By improving the anti-caking tendency, the hygroscopicity of the feed is better controlled, thus avoiding the agglomeration of the particles, with its detrimental effect on their flowability (page 2, lines 5, 15-16, 24, 41-42; page 3, lines 26-28; page 14, lines 19-20).

While D3, which is itself concerned with the provision of analogous feed granules having low hygroscopicity and caking tendency, does not point to any drawbacks in that respect, it is self-evident that in the real world there is always room for improvement.

That this is indeed the case here is apparent when comparing the test conditions disclosed in the experimental part of D3, which show that the anti-caking effect of the D3's amino acid feed additives was

tested for a maximum duration of 120 minutes (page 9, lines 25-26; page 11, lines 38-41; page 12, lines 14-16), while according to example 1, paragraph [0040] of the patent, the test lasted for 168 hours.

The Board therefore accepts that the above technical problem set out in the patent is also applicable vis-à-vis D3.

Moreover, the fact that the experimental evidence in the patent shows that under appropriate conditions covered by Claim 1 the caking tendency of the granules can be successfully suppressed and their flowability maintained, establishes that this technical problem has also effectively been solved by the claimed subject-matter.

5.3 Obviousness

5.3.1 The remaining question is thus whether the prior art suggests to a person skilled in the art the solution of the existing technical problem in the way proposed by Claim 1, namely by the following features distinguishing it from the teaching of D3:

- (a) mixing of the granular feed additive with fine particles of a caking preventive in the ratio of from 0.1 to 5% by weight preventative to the granular feed additive,
- (b) selecting the caking preventive from the group consisting of silica gel, sucrose fatty acid ester, glycerin fatty acid ester, branched amino acid, calcium salt, magnesium salt, aluminum silicate,

magnesium oxide, alumina, zeolite, diatomaceous silica, perlite, disodium hydrogen phosphite acid mixtures and mixtures thereof,

- (c) the 50% mean diameter of the fine particles of the caking preventive being from 1 μm to 50 μm .

In the Board's judgment, a skilled person starting from the granular feed additive of D3 would arrive at the claimed feed additive in an obvious manner.

As the Appellant correctly argued, the use of fine particles of several of the materials specified in feature (b) above as caking preventives is known in the art, as shown by D4, D6 and D7.

D4 discloses anti-caking agents, such as silica gel, with a very small particle size, ranging from 2 to 9 μm (page 45, third paragraph), which, according to the examples of this document, are mixed with a hygroscopic food substance in amounts ranging from 0.25 to 2% by weight of the food substance (page 46, table) in order to inhibit formation of agglomerates and retain the free-flowing characteristics of the food substance.

D6 discloses food grade anti-caking agents such as silicates, phosphates and talcum with a particle size ranging from 2 to 45 μm , which are added to host particles at concentrations up to about 2% in order to improve their flowability and/or inhibit their tendency to cake (page 93, left-hand column; page 94, tables 1 and 2).

D7 discloses anti-caking agents such as calcium and magnesium salts which are used to maintain free-flowing characteristics of granular hygroscopic foods such as dehydrated vegetable products. D7 mentions that anti-caking agents applied in powdered form may function by coating particles.

Consequently, the skilled person in the art who seeks to improve the anti-caking tendency of the granular feed additive of D3 during a storage period longer than two hours (120 minutes), finds in D4, D6 or D7 the teaching that the food-compatible, known anti-caking agents such as silica gel, calcium salts and magnesium salts, with a particle diameter ranging between 2 and 45 μm , and thus a 50-% mean particle diameter falling within the claimed 1 to 50 μm range, when mixed with hygroscopic food granules at an effective amount of up to 2% by weight, provide them with an effective anti-caking effect for a longer storage period. The anti-caking effect disclosed in D4, D6 and D7 extends to a time period which is certainly longer than the couple of hours exemplified in D3, because the anti-caking agents there are disclosed to be used in food products which are normally supposed to be free-flowing for a number of months, such as in instant breakfast drink powders and soft drinks powders (cf. D4, page 45, first paragraph), baking powder (D6, table 1), dehydrated vegetables, garlic and onion powder (cf. D7, page 809). Even if D4, D6 and D7 do not disclose that the anti-caking agents are compatible with amino acid feeds for animals, the idea of human food compatibility implies that these anti-caking compounds are also not toxic to animals, which means that they can also be used with amino acid feeds for animals. Therefore the skilled

person would find it obvious to combine the teaching of D4, D6 or D7 with that of D3 and come to the claimed subject-matter without an inventive step being involved.

- 5.3.2 The Board does not concur with the Respondent, who argued that D3 led away from the claimed invention because it disclosed that for the granulation of the feed additive, perlite, a material known as a caking preventive, may be added in amounts of up to 5% by weight of the feed granules (page 6, lines 53 to 57), leading to the conclusion that the skilled person seeking to reduce the granule's caking tendency further would prefer to increase the amount of p
- 5.3.3 erlite during the formation of the granules rather than resort to mixing the finished granules with an anti-caking powder.

This argument is not convincing for two reasons: firstly D3 itself on page 2, lines 23-25, warns against the addition of too large an amount of additive when seeking to improve the granule flowability because additives reduce the amino acid content and, secondly, D4, D6 and D7 clearly show that the admixture of a caking preventive in powder form was a technique at the disposal of the skilled practitioner wishing to control the caking behaviour of hygroscopic, sticky food materials, powders and granules inclusive.

- 5.4 Under these circumstances, the Board considers that the subject-matter of Claim 1 does not meet the requirements of Article 56.
- 5.5 Since both operative requests, namely the main request (granted version) and the auxiliary request (submitted

10 January 2005), include this Claim, it follows that the grounds of opposition raised against the patent prejudice its maintenance.

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:

G. Röhn

P. Kitzmantel