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D E C I S I O N
of 7 July 2000

Case Number: T 0306/98 - 3.3.4

Application Number: 88904190.1

Publication Number: 0368864

IPC: A23J 1/20

Language of the proceedings: EN

Title of invention:
Whey Protein Fractions

Patentee:
COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

Opponent:
Stichting Behartiging Octrooibelangen

Headword:
Whey Fractions/CSIRO

Relevant legal provisions:
EPC Art. 83, 123(3)

Keyword:
"Insufficiency - yes"
"Claim broadening - yes"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0306/98 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 7 July 2000

Appellant: (Proprietor of the patent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 15 December 1997 revoking European patent No. 0 368 864 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: D. D. Harkness
S. C. Perryman

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division to revoke European patent No. EP-B-0 368 864 having the title "Whey protein fractions".

II. The main and first two auxiliary requests were rejected by the opposition division because the product claimed in claim 22 of each of these requests, namely á-lactalbumin, was disclosed in the prior art in a novelty destroying way (Article 54(2) EPC) and all these requests failed for that reason.

The third auxiliary request was rejected because the subject-matter of the main process claim was found to be obvious having regard to the disclosure in the prior art, and, thus, did not fulfil the requirement of Article 56 EPC.

During the opposition proceedings the opponent also objected on the ground that the patent did not comply with the requirements of Article 83 EPC (letter dated 26 July 1996). Subsequently the opposition division decided that the patent complied with said article.

III. The appellant (patentee) filed a notice of appeal and statement of grounds and paid the appeal fee.

IV. The respondent (opponent) replied to the appeal.

V. In reply to a communication issued by the board to the parties the appellant submitted a new main request and two auxiliary requests. None of these requests contained a per se product claim, thus all requests were limited to processes.

VI. At oral proceedings on 7 July 2000 the appellant relied upon the main request submitted on 23 March 2000 and a new auxiliary request I, all other auxiliary requests having been withdrawn.

Claim 1 of the main request and of the auxiliary request respectively read as follows:

"1. A process for the production of whey protein fractions characterised in that it comprises the steps of:

(a) treating the whey to achieve a reduction in the specific gravity and ionic strength of the whey to levels which should not be less than 25% of their original values;
(b) adjusting the pH of the whey to a value in the range 3.80 to 5.50 by the addition of acid;
the above steps being carried out in any order;
(c) heating the pH-adjusted whey to a temperature in the range 55-70°C, and maintaining the whey at that temperature for a period greater than 30 seconds and sufficient to permit aggregation of a portion of the protein content of the whey;
(d) cooling the whey to a temperature less than 55°C, and maintaining the whey at that temperature for a period of time sufficient to permit flocculation of the aggregated protein;
(e) separating the aggregated protein containing alpha-lactalbumin from the mother liquor; and
(f) optionally, recovering beta-lactoglobulin and/or other soluble proteins from the mother liquor."

"1. A process for the production of whey protein fractions characterised in that it comprises the steps of:

(a) treating the whey by diafiltration to achieve a reduction in the specific gravity and ionic strength of the whey such that the reduction in the ionic strength of the whey is to from 25% to 90% of its original value;
(b) adjusting the pH of the whey to a value in the range 4.1 to 4.4 by the addition of acid;
the above steps being carried out in any order;
(c) heating the pH-adjusted whey to a temperature in the range 55-70°C, and maintaining the whey at that temperature for a period greater than 30 seconds and sufficient to permit aggregation of a portion of the protein content of the whey;
(d) cooling the whey to a temperature less than 55°C, and maintaining the whey at that temperature for a period of time sufficient to permit flocculation of the aggregated protein;
(e) separating the aggregated protein containing alpha-lactalbumin from the mother liquor; and
(f) optionally, recovering beta-lactoglobulin and/or other soluble proteins from the mother liquor."

VII. The appellant's arguments in respect of the requirements of Articles 83 and 123(3) EPC may be summarised as follows;

The insufficiency objection made under Article 83 EPC was not correct as it was really a disguised clarity objection which could not be raised under Article 84 EPC in these proceedings.

Step (a) of the process enabled the proteins to be separated from whey or concentrated whey which could be diluted. The said step resulted in reduced values for both specific gravity and ionic strength. Reducing the specific gravity of a whey to levels not less than 25% of their original values had to be interpreted as meaning for a whey of specific gravity of 1.04 reducing it to a specific gravity of not less than 1.01, i.e. it was the difference to the specific gravity of water that was reduced. Specific gravity and ionic strength were both consistently defined throughout the patent specification and there was nothing missing which was necessary to avoid doubt as to the meaning of these terms. A skilled person reading the patent description and examples would be able to deduce the values of these two features for both of which the lower limit of 25% of original value was valid.

The new auxiliary request did not add any subject-matter because it was a restricted form of claim 1 of the main request and had been drafted to avoid any impossible technical feature. An amendment which excluded impossible subject-matter, namely a literal reading of reduction of specific gravity, could not be contrary to Article 123(3) EPC. Thus the reference to simply "reduction in the specific gravity" was not objectionable as it related only to possible technical features which were originally present in the claim.

VIII. The respondent's submissions can be summarised as follows:

Although the wording of paragraph (a) of the claim was clear it was not possible to carry out the process. The term "specific gravity" required to be defined in terms

of the actual solvent employed and the temperature at which measurements were taken. It was possible that solvents other than water, eg, methanol, could be used. The wording of said paragraph was incorrect and there was no definition available in the patent specification to overcome this difficulty. The processes claimed in claims 3 and 4 of the main request were technically inoperable in that they referred to processes which were impossible to perform.

Although the examples gave some guidance as to how to perform the process of the invention there was insufficient information in respect of the values for specific gravity. There was doubt at which point in example 1 the claimed process began and whether or not a whey or concentrated whey was the starting material.

The auxiliary request did not comply with Article 123(3) EPC because the percentage range 25 to 90% of original value is applicable only to the ionic strength of the whey and the minimum 25% relating to specific gravity was no longer a feature of claim 1. Any reduction in specific gravity was now possible, thus in this respect the scope of the claim had been broadened.

IX. The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims of the main request submitted on 23 March 2000 or auxiliary request I submitted at the oral proceedings on 7 July 2000.

X. The respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 Sufficiency of disclosure, Article 83 EPC.

2.2 Claim 1 does not specify whether the starting whey material is a concentrated or non-concentrated one. The wording, thus, comprises both possibilities. In the case that the process starts from whey which has not been concentrated it is seen from paragraph (a) of claim 1 that the whey is to be treated to "achieve a reduction in specific gravity and ionic strength of the whey to levels which should not be less than 25% of their original values." This reduction applies not only to ionic strength, for which the 25% is attainable, but also to specific gravity and it is this latter feature which causes difficulties.

2.3 Specific gravity is defined as the ratio of the mass of a body to the mass of an equal volume of water at 4°C or other specified temperature, (Handbook of Chemistry and Physics, The Chemical Rubber CO. page F-109, 54th edition, 1973-1974). Thus reductions in specific gravity values are reductions in this ratio.

2.4 Such a value as 25% of original value is not attainable for the specific gravity of aqueous unconcentrated whey which is normally 1.02, because for any aqueous media the value would tend towards 1.0 as a result of dilution with water. A reduction from, 1.02 to 1.0 would represent a reduction of approximately 2% and this is a maximum reduction since 1.0, is the lowest

possible attainable figure for aqueous media. Thus there is no possibility to obtain a value of only 25% of the original specific gravity of whey, ie, a reduction of 75% and the patent is insufficient in respect of attaining specific gravity measurements in aqueous whey below 1.0.

2.5 The explanation that if a specific gravity value of 1.4 were to be reduced to 1.1 then this value would be 25% of the original value is not correct since it does not represent a reduction in value of the ratio according to the definition of specific gravity given above. The patent in suit gives no guidance of any sort in respect of such a calculation and is totally silent as to how specific gravity reductions are determined. In these circumstances the skilled person can only consider reductions in specific gravity which conform with the accepted definition.

2.6 The main request therefore fails to meet the requirements of Article 83 EPC.

3. *Auxiliary request*

3.1 Claim 1 of this request represents a combination of claims 1, 2, 5 and 10 of the main request, however, in order to overcome the difficulty in defining the reduction in specific gravity the limitation that specific gravity should not be reduced to a level of less than 25% of its original value has been deleted. Accordingly any level of reduction of specific gravity, even one to less than 25% of its original value, is now comprised within the claim. Such an amendment constitutes a broadening of this aspect of the process and contravenes Article 123(3) EPC. This request must

also fail.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairwoman:

U. Bultmann U. Kinkeldey