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**D E C I S I O N**  
**of 11 August 2000**

**Case Number:** T 0525/96 - 3.3.2

**Application Number:** 90203451.1

**Publication Number:** 0436994

**IPC:** A23L 1/19

**Language of the proceedings:** EN

**Title of invention:**

Non-dairy creams

**Patentee:**

UNILEVER N.V., et al

**Opponent:**

Stichting Behartiging Octrooibelangen

**Headword:**

Homogenisation/UNILEVER

**Relevant legal provisions:**

EPC Art. 56  
EPC R. 55(c)

**Keyword:**

"Main request - inventive step (no): obvious alternative process"  
"First auxiliary request - power of the board to examine a product-by-process claim not explicitly opposed (yes)"  
"Inventive step: (no)"  
"Second auxiliary request - not object of opposition"

**Decisions cited:**

G 0009/91

**Catchword:**

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Case Number: T 0525/96 - 3.3.2

**D E C I S I O N**  
**of the Technical Board of Appeal 3.3.2**  
**of 11 August 2000**

**Appellant:** Stichting Behartiging Octrooibelangen  
(Opponent) Coöperatieve Zuivelindustrie Parkweg 2  
NL-2585 JJ Den Haag (NL)

**Representative:** van Gennip, Johannes Simeon Wilhelmus  
Vereenigde Octoobureaux  
Postbus 87930  
NL-2508 DH Den Haag (NL)

**Respondent:** UNILEVER N.V.  
(Proprietor of the patent) Weena 455  
NL-3013 AL Rotterdam (NL)

UNILEVER PLC  
Unilever House  
Blackfriars  
P.O. Box 68  
London EC4P 4BQ (GB)

**Representative:** Boerma, Caroline  
Unilever N.V.  
Patent Division  
P.O. Box 137  
NL-3130 AC Vlaardingen (NL)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 9 April 1996  
rejecting the opposition filed against European  
patent No. 0 436 994 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

**Chairman:** P. A. M. Lançon  
**Members:** C. Germinario  
R. E. Teschemacher



## Summary of Facts and Submissions

- I. European patent No. 0 436 994 was granted pursuant to European patent application No. 90 203 451.1 on the basis of a set of 15 claims for all the designated Contracting States.

The text of granted claims 1, 13, 14 and 15 reads:

1. Non-dairy cream, comprising an emulsion of vegetable fat(s) and water, an emulsifier and a component of milk, selected from the group consisting of: butter milk powder, whole milk powder, skimmed milk powder, butter serum powder, butter milk, skimmed milk, whole milk, butter serum and mixture thereof, characterised by the presence of 0.1-10 wt% emulsifier and 0.1-15 wt% (on dry basis) of the component of milk, whereas the ratio between the concentration of the component of milk (= B) and the concentration emulsifier (= C), both as wt%, is such that  $B/C^2$  is greater than a critical value  $Y_{crit}$  and the viscosity at  $100 \text{ s}^{-1}$  is less than 150 mPa.s, wherein the critical value  $Y_{crit}$  is determined by the emulsifier used and is obtained from a graph in which the viscosity is plotted against  $B/C^2$ , in which  $Y_{crit}$  is that value for  $B/C^2$ , which according to that graph results in a viscosity of 100 mPa.s at  $100 \text{ s}^{-1}$ .

13. Process for the preparation of NDC's by dispersing an emulsifier and vegetable fat in water, homogenising the mixture, adding a component of milk selected from the group consisting of: butter milk powder, whole milk powder, skimmed milk powder, butter serum powder, butter milk, skimmed milk, whole milk, butter serum and mixture thereof to the homogenised mixture and processing the cream without further homogenisation to

a processed NDC.

14. Process according to claim 13, wherein buttermilk powder is used as component of milk, which is admixed very carefully with a homogenised mixture of water, vegetable fat and caseinate.

15. NDC's as obtainable by carrying out the process of claims 13 and 14

II. Notice of opposition was filed by the appellant under Article 100(a) EPC. The European patent was opposed to the extent of the sole claims 13 and 14 on the ground of lack of inventive step.

The following documents were cited during the proceedings before the opposition division and before the board:

- (1) H. Mulder and P. Walstra "The milk fat globule - Emulsion science as applied to milk products and comparable foods", Commonwealth Agricultural Bureaux, Farnham Royal, Bucks, England, 1974, page 221;
- (1a) Page 191 of document (1)
- (3) Bulletin - International Dairy Federation, Document 116, 1979, pages 7-13;
- (4) "Recombination of Milk and Milk Products" Proceedings of a seminar organised by The International Dairy Federation and the University of Alexandria, 12-16 November 1988, pages 151-156.

III. The opposition division issued a decision rejecting the opposition.

Having recognised in the high viscosity of the known non-dairy creams the problem to be solved by the invention, the opposition division found that all the cited documents related to dairy creams. In view of the different compositions of these two types of products - dairy and non-dairy - it held that the skilled person would not reasonably have considered a teaching in relation to the former to solve any problem in relation to the latter.

Moreover, the cited documents all failed to recognise the relationship between milk components and increasing viscosity upon homogenisation. Even assuming, nevertheless, that the skilled person could have envisaged, in the light of the cited documents, that the milk components were indeed the cause of the high viscosity, he would not have found any useful suggestion in the cited documents to make the specific solution of the problem proposed by the invention obvious.

IV. The appellant lodged an appeal against this decision and filed additional documents (3) and (4) to show that the main aim in the preparation of NDCs is to obtain products which physically and organoleptically resemble as close as possible to the corresponding dairy products and that the literature concerning the preparation of the former is also relevant for the preparation of the latter. In the appellant's contentions, claims 13 and 14 were not directed to a process for preparing low-viscosity NDCs but to a process for preparing generic NDCs. Keeping this in

mind, document (1) suggested that, in the preparation of creams, it was desirable for reasons of stability to reduce the amounts of milk derivatives, namely casein, in the mixture to be homogenised and that casein or other milk components could be added thereafter. Therefore, the sole missing teaching in (1) was the use of vegetable fats in part at least to replace milk fats. However this possibility was well known to the person skilled in the art of preparing recombined and filled milks and creams.

- V. Oral proceedings were held on 11 August 2000. During the oral proceedings, the respondent filed a new first auxiliary request, in which granted claims 13 and 14 were abandoned and their subject-matter incorporated into the original product-by-process claim 15, then renumbered 13.

New claim 13 reads:

"13. NDC's as obtainable by carrying out the process for the preparation of NDC's by dispersing an emulsifier and vegetable fat in water, homogenising the mixture, adding a component of milk selected from the group consisting of: butter milk powder, whole milk powder, skimmed milk powder, butter serum powder, butter milk, skimmed milk, whole milk, butter serum and mixture thereof to the homogenised mixture and processing the cream without further homogenisation to a processed NDC and wherein buttermilk powder is used as component of milk, which is admixed very carefully with a homogenised mixture of water, vegetable fat and caseinate."

A second auxiliary request, limited to claims 1 to 12



as granted and an accordingly adapted description, was also filed.

- VI. The respondent argued that dairy and non-dairy products were not to be considered equivalent. Therefore all the cited documents were in themselves irrelevant. Moreover, taking the viscosity as the problem to be solved, the cited documents failed to recognise any relationship between cluster formation during homogenisation and viscosity, or that milk derivatives, specifically casein, influenced the formation of such clusters. Documents (1) and (1a), which were cited as the most relevant prior art, were directed to improving the whippability, not decreasing the viscosity of a cream.

As to the first auxiliary request, the respondent emphasised that the granted product-by-process claim 15 was not opposed by the opponent. Therefore, according to decision G 9/91 of the Enlarged Board of Appeal, the board had no power to consider this claim even if the process claims were to fail.

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

The respondent requested that the appeal be dismissed and the patent be maintained as granted. Alternatively, it was requested that the patent be maintained on the basis of claims 1 to 13 (first auxiliary request) or claims 1 to 12 (second auxiliary request), both submitted during the oral proceedings.

## Reasons for the Decision

1. The appeal is admissible.
2. The introduction into the proceedings of late filed documents (3) and (4), which were enclosed in the appellant's statement setting out the grounds of appeal, was objected to by the respondent.

Documents (3) and (4) were not filed by the appellant at the appeal stage in order to develop for the first time new arguments or strategy, but simply to corroborate the arguments already submitted during the opposition proceedings and based on the premise that dairy and non-dairy products were equivalent. The new documents filed are also regarded as the evident and direct reply to the opposition division's arguments tending to disregard all those documents relating to dairy products since regarded as not pertinent. For this reason, the introduction of the two documents into the proceedings pursuant to Article 114(1) EPC is justified.

3. *Main request*

The main request corresponds to the set of claims of the patent as granted which was opposed to the extent of the sole process claims 13 and 14 on the ground of lack of inventive step.

- 3.1 The closest prior art

The description of the patent in suit acknowledges the state of the art in relation to non-dairy creams (NDCs). In column 1, lines 5 to 9, it is recognised

that non-dairy creams comprising milk components, such as buttermilk powder, have been produced for a very long time. Reference is made to US patent No. 2,657,142 of 1953. The description also indicates that these creams are produced according to conventional processes in which the milk component is first dispersed in water together with a water-soluble emulsifier, the fat being added afterwards to form an emulsion which is then subjected to homogenisation (column 3, lines 17 to 22). This background knowledge was not questioned by the parties.

Since dairy and non-dairy products represent at least formally different classes of product, as stressed by the respondent, and as no document clearly relating to non-dairy creams has been cited either by the competent department of the EPO or by any party, the background knowledge illustrated in the description is considered by the board to be the closest prior art.

- 3.2 The subject-matter of claim 13 is a process for the preparation of NDCs. In writing and during the oral proceedings, the respondent emphasised that the process according to the present invention allowed low-viscosity NDCs to be produced, and that the invention thus removed the drawback of the excessively high viscosity of the known NDCs.

The board notes that claim 13 is an independent claim making no reference to the product of claims 1 to 12. Moreover, the claim is neither explicitly directed to a process for preparing a low-viscosity NDCs nor does it cite those specific conditions which would automatically result in a low viscosity product. For instance, Fig. 2 shows that viscosity is highly

dependent on the amount of surfactant (NaCas) and that by simply decreasing this from 2% to 1%, while maintaining unchanged all the claimed features, the final viscosity may increase dramatically. It follows therefore that the alleged low viscosity of the final product cannot be regarded as a feature of the process according to claims 13 and 14. The patentee itself recognised during the oral proceedings that process claims 13 and 14 were not concerned with viscosity.

The board also stresses that no other advantage or desirable effect implied in or caused by the claimed process was shown by the respondent either in writing or during the oral proceedings.

On the basis of these considerations, the problem to be solved by the invention as against the known conventional processes illustrated in the description is simply to provide an **alternative process** for producing non-dairy cream.

The solution proposed is that of adding the milk component after homogenisation of the emulsion of the vegetable fat.

- 3.3 A number of documents relating to dairy creams and other dairy products were cited in the opposition proceedings. Both the respondent and the opposition division questioned the relevance of these documents as they were not expressly concerned with non-dairy products.

Although there may exist an official definition for dairy and non-dairy products and a recognised difference between the two types of product, the board

finds in the cited documents that in practice the two groups may well overlap or even be equivalent. In fact, products qualified as "dairy" may comprise vegetable fats while others qualified as "non-dairy" often comprise milk derivatives. The invention under consideration and the prior art acknowledged in the description offer examples of this situation. Documents (3) and (4) give further explicit examples. Under the heading "Filled milks" on page 12, document (3) reports that filled milks are similar to recombined milks except that instead of milk fat, vegetable fat or oil are used and that the procedures for manufacturing the various forms of filled milks are the same as for the equivalent recombined milks, except for the obvious minor adaptations of the operating conditions. Furthermore, document (4) emphasises, on page 151, that the technology of making filled milk products (ie skimmed milk products with vegetable fat) is identical to that of making recombined milk products and that it makes no difference whether milk fat or vegetable fat is used in processing. Under these circumstances, the two groups are regarded as so close to one another that the skilled person faced with a problem relating to non-dairy creams would have also considered documents dealing with dairy products. Moreover, he would have considered the presence of milk components in a non-dairy product or the presence of vegetable fats in a dairy product as a matter of course.

- 3.4 Among the cited documents, documents (1) and (1a), which are two parts of the same publication, are particularly relevant. These documents elucidate some of the phenomena occurring during the homogenisation of diary creams. In the second paragraph on page 221, document (1) indicates that homogenisation of cream

gives rise to the formation of clusters, and that in order to obtain a good product it is preferable to keep the cluster sufficiently small. From this observation the board understands that the formation of clusters is indeed a drawback of the homogenisation stage. On the other hand, document (1a) establishes a relationship between the presence of casein, which is the most abundant non-fat component of the milk derivatives, and the cluster formation during homogenisation, casein coating the surface of the fat globules contributing to the formation of cluster. The aforementioned passages would already in themselves suggest to the skilled person that casein or any casein-comprising product present in the homogenisation mixture may affect the quality of the dairy cream obtained. The teaching in document (1), however, goes well beyond this suggestion. In the fifth paragraph on page 221, it is further explained that at least in order to achieve good whipping properties of the cream obtained, it is desirable that the mixture to be homogenised comprises only a small amount of casein so as to ensure that relatively little casein goes into the newly formed membrane of the fat globules. This further recommendation that the amount of casein should be kept low in the homogenisation stage is corroborated by the following suggestion that in any case casein or separated milk can be added again after homogenisation.

The teaching illustrated above in relation to dairy products would, in the board's view, find a still easier application in the field of non-dairy creams which comprise casein or any other milk derivative as an additional non-essential component of their formulations.

Therefore, the skilled person faced with the problem of devising an alternative process to the conventional processes for producing non-dairy creams would not only have found in documents (1) and (1a) a clear recommendation to add casein or any other milk component after the homogenisation stage, but he would also have expected this modification to cause some improvement in the quality of the product obtained.

For this reason, the board considers that the main request does not involve an inventive step.

4. *First auxiliary request*

4.1 According to the first auxiliary request, process claims 13 and 14 of the main request are abandoned and their text is incorporated into new claim 13 which corresponds to product-by-process claim 15 of the main request (ie granted claim 15).

4.2 The text of new claim 13 comprises an internal inconsistency. In fact, the milk component is defined in the same claim in two different and partially exclusive ways. Thus, the first part of the claim defines this component as selected from butter milk powder, whole milk powder, skimmed milk powder, butter serum powder, butter milk, skimmed milk, whole milk, butter serum and mixture thereof, whereas the second part of the claim redefines the same component as buttermilk powder and provides special conditions for mixing in that case. This inconsistency obviously derives from the incorporation into one single product claim of the text of two process claims, one of which being directed to a preferred embodiment of the invention. Under these circumstances, the board regards

the second part of the claim, starting with "and wherein buttermilk...", as simply identifying a preferred, optional embodiment of the invention, which conditionally limits the scope of the claim only to the extent that the selected milk component is buttermilk.

4.3 During the oral proceedings, the respondent relied on decision G 9/91 (OJ EPO 1993, 408) and stressed that, in its examination of the appeal, the board was bound by the statement by the opponent (appellant) under Rule 55(c) EPC of the extent to which the patent was opposed. As the appellant had only challenged the validity of granted claims 13 and 14 (process), but not that of claim 15 (product-by-process), the board had no power to examine new claim 13.

4.4 In point 11 of its decision, the Enlarged Board of Appeal laid down that "even if the opposition is explicitly directed only to the subject-matter of an independent claim of a European patent, subject-matters covered by claims which depend on such an independent claim may also be examined as to patentability, if the independent claim falls in opposition or appeal proceedings, provided their validity is *prima facie* in doubt on the basis of already available information. Such dependent subject-matters have to be considered as being implicitly covered by the statement under Rule 55(c) EPC."

The Enlarged Board of Appeal treated the usual relationship between independent and dependent claims (ie same category). The circumstances which caused decision G 9/91 to be taken did not call for consideration of other specific situations such as the relationship between a process claim and a product-by-



process claim making reference to the same process.

4.5 The possibility stated by the Enlarged Board of Appeal to examine the patentability of a dependent claim not explicitly cited in the statement pursuant Rule 55(c) EPC is apparently based on the consideration that the statement under Rule 55(c) implicitly covers claims directed to subject-matter closely related to the subject-matter of the claims opposed explicitly if the already available information casts serious doubts on the patentability of these further claims and allows an easy assessment of their validity. In fact, dependent claims may contain only trivial additional features which are unable to add any additional contribution making the independent claim patentable. In such a situation, the finding of facts which caused the independent claim to fail applies in the same way to the dependent claims. In this case, the lack of any explicit reference in the statement under Rule 55(c) EPC to a dependent claim cannot be construed as a purposive limitation of the extent of the opposition but simply as a matter of choice on the part of the opponent.

4.6 The present case is slightly different since the claim under consideration, new claim 13, is not a dependent claim but an independent product-by-process claim based on a process claim which failed during the appeal proceedings. As the product protected by this claim is not defined by any actual product feature but simply by way of its preparation process, its patentability can only be justified by an allegedly novel and inventive feature derived from this process. Therefore, in the board's view, the relationship between claim 13 and the original process claims (13 and 14) for the assessment

of patentability is even stronger than that between independent and dependent claims referred to in the decision of the Enlarged Board of Appeal, since the invalidity of the product-by-process claim follows directly from the invalidity of the process claim. Hence it is justified to apply the conclusion of the Enlarged Board of Appeal in G 9/91 also to the present situation.

- 4.7 As already explained in relation to the main request, the preparation process, which is now incorporated *expressis verbis* into claim 13 as the sole characterising element of the claimed subject-matter, is not defined by any conditions which would or even could impart a novel and inventive feature to the final product (eg low viscosity).

On the other hand, beyond the preparation process, the claim does not provide any further product feature or property capable of independently defining the claimed non-dairy cream.

Since non-dairy creams were well known long before the relevant date of the patent in suit, as acknowledged in the description, the board does not see any element of the claim which could endow the claimed subject-matter, if novel, with an inventive step.

For these reasons, the first auxiliary request is refused, at least on ground of lack of inventive step of claim 13.

5. *Second auxiliary request*

The second auxiliary request is limited to claims 1 to

12 of the granted patent, which were not the subject of the opposition. The validity of these claims is therefore not a point at issue in the present appeal proceedings.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first-instance with the order to maintain the patent as amended in the following version:

**Claims:** 1 to 12,

**Description:** columns 1 to 4, both as submitted during oral proceedings, and

**Drawings:** Figures 1 to 3 as granted.

The Registrar:

The Chairman:

A. Townend

P. A. M. Lançon