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**D E C I S I O N**  
**of 2 April 1997**

**Case Number:** T 0322/93 - 3.3.3

**Application Number:** 87106251.9

**Publication Number:** 0250766

**IPC:** C08G 65/00

**Language of the proceedings:** EN

**Title of invention:**  
Microemulsions containing perfluoropolyethers

**Applicant:**  
AUSIMONT S.p.A.

**Opponent:**  
-

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 83, 84, 114(1), (2)

**Keyword:**  
"Disclosure - sufficiency - (yes)"  
"Claims - functional definition - scope of monopoly claimed  
broader than invention as described - mere description not  
tantamount to proper definition"

**Decisions cited:**  
T 0409/91, T 0133/85, T 0026/81

**Catchword:**  
-



Case Number: T 0322/93 - 3.3.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.3  
of 2 April 1997

**Appellant:** AUSIMONT S.p.A.  
Foro Buonaparte, 31  
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**Representative:** Barz, Peter, Dr.  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 16 November 1992  
refusing European patent application  
No. 87 106 251.9 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** C. Gérardin  
**Members:** B. ter Laan  
J. A. Stephens-Ofner

## Summary of Facts and Submissions

- I. European patent application No. 87 106 251.9, filed on 29 April 1987, claiming priority of two earlier applications in Italy (2 091 086 of 26 June 1986 and 1 949 487 of 26 February 1987), and published on 7 January 1988 under publication No. 0 250 766, was refused by a decision of the Examining Division of the European Patent Office dated 16 November 1992, which was announced orally on 27 October 1992.

The decision was based on a set of five claims of which Claims 1 and 2 were filed on 25 January 1991 and Claims 3 to 5 were as originally filed. Claim 1 read as follows:

"Microemulsions of the type "oil in water" or "water in oil", macroscopically composed of a single homogeneous limpid or translucent phase, comprising as essential components:

- an aqueous solution,
- a perfluoropolyether having perfluoroalkyl end groups,
- a fluorinated surfactant."

Claims 2 to 5 referred to preferred embodiments of the microemulsions of Claim 1.

- II. The reason given for refusal was insufficient disclosure of the subject-matter as defined in Claim 1. It was held that the application, which, according to Claim 1, referred to a microemulsion comprising as essential compounds an aqueous solution, a perfluoropolyether having perfluoroalkyl end groups and a fluorinated surfactant, was not disclosed in a manner sufficiently clear and complete for it to be carried out by a skilled person, although the requirements of

Rule 27 EPC were met. In particular, it was found that, although a number of specific examples were given, the description itself revealed that the formation of microemulsions depended on numerous parameters the effects of which were not stated. Therefore, the application contained insufficient technical guidance to justify a generalisation of the examples, so that the skilled person wishing to prepare the microemulsions as broadly claimed was confronted with an unreasonable number of experiments. Hence, the teaching was insufficient and the requirements of Article 83 EPC were not fulfilled.

The Examining Division also made an objection under Article 84 EPC to the extent that the claims were unclear and contained superfluous terms. However, as the Applicant was prepared to amend the claims so as to obviate those objections, the decision did not further deal with that point.

III. On 15 January 1993 a Notice of Appeal was lodged against that decision, together with payment of the prescribed fee. In the Statement of Grounds of Appeal filed on 19 March 1993 and during the oral proceedings held on 2 April 1997 the Appellant (Applicant) argued in essence as follows:

- (a) Since Rule 27(1)(e) EPC was merely a further elaboration of Article 83 EPC and since its requirements were met, this also had to be the case with those of Article 83 EPC.
- (b) As acknowledged by the Examining Division, the description contained a list of parameters which influenced the formation of microemulsions, the exact effects of which could not be predicted in a simple and general way since in this complex field

it was not feasible to give general rules about when exactly a microemulsion would form. However, the description also contained the clear indication that the surface tension between the two immiscible liquids should approach zero, so that the skilled person, when trying out mixtures in a systematic way, by checking the surface tension at each change, would know whether that change led towards the formation of a microemulsion (lower surface tension) or away from it (higher surface tension). A certain degree of uncertainty was however unavoidable and had to be accepted.

- (c) In support of the latter argument the Appellant referred to "Microemulsions - Theory and Practice", edited by L.M. Prince, academic Press, 1977 (D3), which was also mentioned in the application in suit, from which some excerpts were cited during the written proceedings and copies of pages 34 to 41 of which were submitted during the oral proceedings. According to the Appellant, the skilled person could, on the basis of common general knowledge as illustrated by D3 and guided by the information contained in the description and examples, easily obtain stability diagrams such as indicated in the application. Therefore, the disclosure was sufficient.

IV. The Appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of Claims 1 and 2 as filed on 25 January 1991 and Claims 3 to 5 as originally filed.

## Reasons for the Decision

1. The appeal is admissible.

### *Late filed documents*

2. During the oral proceedings before the Board, the Appellant filed copies of pages 34 to 41 of D3, parts of which were cited in the Statement of Grounds of Appeal. This document was also referred to in the application as originally filed, page 1, last sentence. D3 discusses the difficulties encountered when trying to prepare microemulsions. It describes the amounts of emulsifier usually present in those systems and ways of blending the ingredients in order to explore the possible existence and preparation of microemulsions. As D3 was filed in support of arguments brought forward by the Appellant not only at the appeal stage, but also before the first instance, and in view of the relevance of its contents, the Board pursuant to Article 114(1) EPC decided to admit it into the proceedings.

At an even later stage, when the oral proceedings before the Board were well advanced, the Appellant also sought to introduce an Italian translation of one of the documents the abstract of which had been cited by the Examining Division (JP-A-143586). This particular document had not been considered before during the appeal proceedings and, although reference was made to its contents in the reply of 23 July 1991 (page 3, paragraph 1), it had never actually been filed at all. In addition, the Appellant stated that it did not contain any more information than its abstract. For these reasons, the Board decided not to admit the document into the proceedings (Article 114(2) EPC).

Article 83

3. The application was refused for noncompliance with Article 83 EPC, but the requirements of Rule 27(1)(e) were deemed to have been met. The Appellant argued that meeting those requirements meant automatically also complying with Article 83 EPC. As Rule 27(1)(e) EPC stipulates that the description shall describe in detail at least one way of carrying out the invention claimed, the Appellant's argument boils down to the question whether the requirements of Article 83 are fulfilled when only a limited number of examples within the scope of the claimed subject-matter is given in the description. This question has been dealt with in numerous decisions of the Boards of Appeal and the view that it should be answered on a case-by-case basis (see T 409/91, OJ EPO 1994, 653) has become accepted law.

3.1 In the present case, 25 examples are present in the description and, though they do not all concern independent ways of carrying out the invention, the literal requirements of Rule 27(1)(e) are clearly fulfilled. However, this does not automatically mean that the application as filed contains sufficient information to allow a person skilled in the art, using his common general knowledge, to carry out the invention without undue burden within substantially the whole area that is claimed. That has to be decided by appraising the information contained in the examples as well as the other parts of the description in the light of the skilled person's common general knowledge at the relevant date.

3.2 Thus, in the examples, microemulsions are prepared from components that are identified by their molecular weights only, without giving any specification of their exact compositions, in particular the values of the parameters which define the seven formulae of the

perfluoropolyethers (page 5, line 12 to page 7, line 5 and Claim 5) and the six categories of fluorinated surfactants (page 7, line 20 to page 8, line 8). However, the description not only indicates that the perfluoropolyethers of commercial type are in fact polydisperse systems (page 4, lines 2 to 5), but also specifies a number of commercial perfluoropolyethers and, by reference (page 8, lines 1 to 2, class (c)), of fluorinated surfactants, which are used in the examples. Therefore, the Board is satisfied that a skilled person would in fact be able to repeat the examples and to prepare the microemulsions described there.

- 3.3 Regarding the other possible microemulsions covered by the now claimed subject-matter, the Appellant maintained that the information in the description together with the skilled person's common general knowledge as illustrated by D3 would always enable him to find a microemulsion forming system containing a perfluoropolyether by using a fluorinated surfactant. One could, for instance, start from a mixture of two of the components and add the third one by stepwise addition of small portions, e.g. 5%. According to the Appellant, the skilled person, further guided by the information given in the application in suit, in particular by the change in surface tension at each addition as described on page 3, second full paragraph of the description, would, usually within a couple of hours, but at the most within 1 or 2 days, always be able to find a system capable of forming a microemulsion.



3.4 The Board, in view of the publication date of D3 (1977), which must be regarded as a survey of even earlier studies on the subject, is satisfied that the contents of that document can be considered to be common general knowledge at the priority date of the present application (1986).

3.4.1 D3 (Chapter I. Introduction, second full paragraph) concerns the "art" of formulating microemulsions, the science of which, "in spite of reasonably precise theories explaining the Physics and Chemistry of their formation and behavior, ... has not advanced to a point where one can predict with accuracy what is going to happen ... with all the ingredients.". In Chapter II, Mechanics, the circumstances favouring the formation of microemulsions and ways of obtaining them by systematic trial and error experiments are discussed.

As the technical information of D3 is in line with the Appellant's explanations, it is therefore accepted that the skilled person, knowing how to go about finding microemulsion systems by systematic trial and error experiments and guided by the information contained in the present description, would be able to prepare microemulsions comprising an aqueous phase, a perfluoropolyether having perfluoroalkyl end groups and a fluorinated surfactant.

3.5 For these reasons, the Board is satisfied that the invention is sufficiently disclosed for it to be carried out by a skilled person, so that the requirements of Article 83 are fulfilled.

Article 84

4. Although the Board has come to the conclusion that the **description** of the application in suit discloses the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art and, consequently, that the requirements of Article 83 EPC are met, the wording of the **claims** is considered objectionable under Article 84 EPC.
  - 4.1 This ground has however not been explicitly dealt with in the Examining Division's decision, as the Appellant (then Applicant) had declared its readiness to amend the claims under discussion (see the decision, point 2.2). No amendments have, in the event, been made however, so that the Article 84 point cannot be decided by way of appeal. As during the proceedings before the Examining Division various objections under Article 84 EPC have actually been raised, the Appellant's request that a patent be granted on the basis of the claims on file cannot be awarded, so that the case must be remitted to the first instance for further prosecution.
  - 4.2 In view of the arguments presented by the Appellant during the oral proceedings before the Board in relation to Article 83 EPC, but which also implicitly concerned Article 84 EPC, the Board deems it appropriate to make the following comments.
    - 4.2.1 Article 84 EPC stipulates *inter alia* that the claims shall **define** the matter for which protection is sought and be supported by the description.
    - 4.2.2 The explanations provided by the Appellant make it clear that not any and each combination of (i) unspecified perfluoropolyether having perfluoroalkyl

end groups and (ii) unspecified fluorinated surfactant as now claimed would lead to a microemulsion. These explanations are in conformity with the invention as described in the application in suit, in which it is stated that (a) perfluoropolyethers which are suitable for forming the microemulsions are those having a mean molecular weight from 400 to 10,000 and belonging to one or more of seven classes of compounds (page 5, line 12 to page 7, paragraph 1) and (b) the fluorinated surfactants, either ionic or non-ionic, belong to one of six categories of compounds (page 7, paragraph 7 to page 8, paragraph 1). These definitions represent thus essential features and the combination of these specific compounds must be regarded as defining the limits of the actual invention as originally disclosed.

4.2.3 According to a well-established practice, reflected in the constant jurisprudence of the Boards of Appeal (T 133/85, OJ EPO 1988, 441; T 26/81, OJ EPO 1982, 211 and T 409/91, OJ EPO 1994, 653), the definition of the invention in the claims should essentially correspond to the scope of protection as described in the application. Insofar as the claims omit to include such features which are stated in the description as essential, they are not definitions of that invention, but merely incomplete descriptions of it. As a result of the present discrepancy between the description of the invention and the scope of the claims, the latter are thus objectionable under Article 84 EPC.

4.2.4 Moreover, the use of the word "microemulsion" to define the invention and, in particular, to distinguish the subject-matter now being claimed from conventional emulsions amounts to a functional definition which is also objectionable under Article 84 EPC. Whilst the Appellant has made it credible that a skilled person, by selecting particular perfluoropolyethers and fluorinated surfactants in accordance with the teaching

of the application and relying on common general knowledge, could obtain microemulsions, the evidence has not been provided that the desired result could be achieved outside this technical framework. In the absence of a proper definition of the components of the emulsion the word "microemulsion" expresses only a result to be achieved without relation to the actual technical contribution of the invention to the art. This functional definition appears thus as an attempt to claim not only the technical contribution to the art as actually described, and to which the Appellant is entitled, but also to monopolise a technical area extending beyond the limits of that contribution, which is contrary to the requirement of "support" set out in Article 84 EPC.


- 4.2.5 For both reasons the present wording of the claims would appear to be objectionable under Article 84 EPC.

### Order

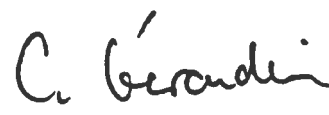
**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution.

The Registrar:

  
E. Görgmayer

The Chairman:

  
C. Gérardin