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D E C I S I O N
of 5 April 2001

Case Number: T 0322/97 - 3.3.6

Application Number: 90309273.2

Publication Number: 0414549

IPC: C11D 17/00

Language of the proceedings: EN

Title of invention:

Liquid cleaning compositions and suspending media

Patentee:

Rhodia Consumer Specialties Limited, trading as Albright &
Wilson Surfactants Europe

Opponent:

Henkel Kommanditgesellschaft auf Aktien

Headword:

Spherulitic phase/RHODIA CONSUMER SPECIALITIES

Relevant legal provisions:

EPC Art. 83

Keyword:

"Sufficiency of disclosure (yes) - after amendment"

Decisions cited:

T 0026/81, T 0226/85, T 0292/85, T 0435/91, T 0409/91

Catchword:

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Case Number: T 0322/97 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 5 April 2001

Appellant: Rhodia Consumer Specialities Limited
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Respondent: Henkel
(Opponent) Kommanditgesellschaft auf Aktien
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Representative: -

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 16 January 1997
revoking European patent No. 0 414 549 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: P. Krasa
Members: G. N. C. Raths
M. Tardo-Dino

Summary of Facts and Submissions

- I. This appeal is from the Opposition division's decision revoking European patent No. 414 549 comprising 15 claims, for insufficiency of disclosure.
- II. The only independent claim 1 of the patent as granted read:
- "1. A mobile liquid composition comprising: water, a surfactant or mixture of surfactants present in a concentration sufficient to form a mobile spherulitic or dispersed lamellar phase in the absence of Electrolyte; and a substantially water insoluble functional material, suspended in the composition, said composition being substantially free from Electrolyte."
- III. In its decision the Opposition division found that the patent in suit did not meet the requirements of Article 83 EPC essentially since the patent in suit did not give any guidance how a skilled person could find surfactants other than those specified in the examples to prepare all the conceivable embodiments covered by the claim because these functionally defined compounds could only be determined with undue burden.
- IV. The Appellant lodged an appeal against this decision and submitted in essence
- that the definition of a chemical substance by a property such as solubility was not strictly speaking a functional definition;
 - that the definition in the claim, by implication, was limited to those surfactants capable of

forming a mobile spherulitic or dispersed lamellar phase in the absence of an electrolyte phase in a binary mixture with water and that this set of surfactants could not be indicated by any other name;

- that a skilled chemist would have no difficulty in predicting or identifying the surfactants which would be useful;
- that there was no necessity of establishing a phase diagram for each surfactant;
- that the Opposition division was wrong when stating that the objective was how to obtain a lamellar phase; the actual problem was how to suspend solids in water;
- that the claimed compositions were able to suspend any insoluble solid from micron sized particles up to paper clips.
- that documents (1), (2) and (3) were irrelevant.

V. The Respondent submitted in essence

- that the patent did not give any pointer how to solve the problem without undue burden;
- that the number of experiments was indefinite because there were also phase diagrams of surface active substances which did not show lamellar or spherulitic phases;
- that the examples of the patent in suit were

isolated cases which were of no help for executing the invention;

- that the subject-matter of claim 1 lacked novelty over document (4);
- that the patent lacked an inventive step over documents (5), or (5) and (7);
- that the affidavits were not apt to prove sufficiency of disclosure;
- that the patent in suit did neither disclose a concrete selection modus for making the compositions nor restrictions with respect to the solids to be suspended (see for instance page 6, lines 18 to 24).

VI. During oral proceedings, which took place on 5 April 2001, the Appellant submitted a new main request comprising 12 claims, claim 1 of which read as follows:

"1. A mobile liquid composition comprising: water; a mixture of surfactants; and a substantially water insoluble functional material characterised in that said mixture of surfactants has a mean solubility parameter in the range 10 to 12 and forms a mobile spherulitic phase in water in the absence of electrolyte and at a concentration within the range 8 to 25% of surfactant based on the total weight of said mixture of surfactants and water; said mixture of surfactants being present in a concentration sufficient to form a mobile spherulitic phase in the absence of electrolyte; said substantially water insoluble functional material being suspended in the composition;

said composition being substantially free from electrolyte."

The Respondent submitted document

- (9) R. Heusch and F. Kopp, "Structures in aqueous solutions of nonionic tensides", Progress in Colloid & Polymer Science, vol. 77, 1988, 77-85.

in order to prove that the requirements of Article 83 EPC were not met.

- VII. The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the claims 1 to 12 submitted during oral proceedings.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. Articles 84 and 123 EPC

Apart from editorial amendments claim 1 filed during oral proceedings differs in essence from claim 1 as originally filed in that the words "a surfactant or" and the sentence "present in a concentration sufficient to form ... a lamellar phase" have been deleted, and the passage "said mixture of surfactants has a mean solubility parameter of 10 to 12 and forms a mobile spherulitic phase in water in the absence of electrolyte and at a concentration within the range 8 to 25% of surfactant based on the total weight of said mixture of surfactants and water" was inserted in a characterisation part.

The basis for the amendment is found in the description (page 4, lines 54 to 56).

The Board is satisfied that the amendments did not give rise to objections under Articles 84 and 123 EPC. Since no further objections in respect to these articles were raised during oral proceedings a detailed reasoning is not necessary.

2. *Articles 83 and 100(b) EPC*

- 2.1 Claim 1 concerns a mobile liquid composition comprising, inter alia, a mixture of surfactants which has a mean solubility parameter in the range 10 to 12 and forms a mobile spherulitic phase in water in the absence of electrolyte and at a concentration within the range 8 to 25% of surfactant based on the total weight of said mixture of surfactants and water.
- 2.2 Article 83 EPC requires that the invention has to be disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. This means that substantially any embodiment of the invention covered by the broadest claim, i.e. claim 1, must be capable of being realized on the basis of the claims and the description of the respective patent.
- 2.3 Examples 7 to 10 of the patent in suit provide compositions meeting the requirements of claim 1 which now concerns surfactants forming a mobile spherulitic phase. Furthermore the feasibility of the worked examples, in which typical examples of surfactants were used, remained unchallenged. It is important to note that not only the exemplified specific embodiments must

be reproducible but any embodiment which falls within the ambit of the claim. Therefore it had to be decided whether or not the subject-matter of claim 1 as a whole can be carried out by the person skilled in the art.

- 2.4 One of the present invention's essential technical features, the mixture of surfactants is now defined by its mean solubility parameter, and the concentration of the mixture to be used is defined as being between 8 and 25% of surfactant based on the total weight of said mixture of surfactants and water. Also, the claim has been limited to surfactants forming a spherulitic phase.

This means that it has to be investigated whether or not the claims cover subject-matter which after reading the description would still not be at the disposal of those skilled in the art. This question has to be answered on the merits of each individual case evaluating the available evidence on the basis of the balance of possibilities (see also T 409/91, head note, first sentence, and point 3.3 of the Reasons for the decision, OJ EPO 1994, 653; and T 435/91, Reasons for the Decision, point 2.2.1). In this context it has to be kept in mind that detailed instructions how to obtain all possible variants within a functional definition are not mandatory for complying with the requirements of Article 83 EPC (see also T 292/85, headnote, 1., OJ 1989, 375).

- 2.5 The choice of the surfactants is now limited by the requirement of the solubility parameter; the mixture of surfactants should have a solubility parameter of 10 to 12. Further, the concentration of the mixture should be 8 to 25% by weight based on the total weight of mixture

and water. According to the description this information is sufficient for obtaining the mobile spherulitic phase (patent in suit, page 4, lines 54 to 56). In the Board's judgement, the adjustment of the solubility parameter and of the concentration range of the mixture within the given limits, as well as of the respective concentration ratios of the surfactants in the mixture, lies within the skills of an ordinary practitioner.

- 2.6 The Respondent argued that 80% of surfactants mixtures used at a concentration of 8 to 25% by weight and satisfying the solubility parameter of claim 1 did not form a spherulitic phase. However no evidence was submitted to prove this allegation. It is true that document (9) discloses a mixture of surfactants, "Dob 91/5-EO", which is a reaction product of C₉-, C₁₀- and C₁₁- fatty alcohols with ethylene oxide showing a spherical structure at a concentration of 45% at a temperature of 0°C (see Figure 5, and page 79, right-hand column, three last lines) and a lamellar structure at a concentration of 70% at 20°C (see Figure 6, and page 80, left-hand column, first paragraph). This is however not sufficient evidence for proving that most surfactants mixtures at a concentration range between 8 and 25 weight % and with a solubility parameter of 10 to 12 would not form a spherulitic phase.

No evidence was provided that the amount of trial and error would impose an undue burden on the skilled person when it came to the sufficiency of disclosure.

For these reasons it is concluded that the subject-matter of the amended claim 1 complies with the requirements of Article 83 EPC, as do the dependent

claims 2 to 12.

3. *Remittal*

The decision under appeal was based upon a set of claims which is no longer upheld by the Appellant. Therefore, taking into account that the novelty and the inventive step of the subject-matter of the new set of claims was not yet examined, the Board considers it appropriate to exercise its discretion under Article 111(1) EPC and to remit the case to the first instance for further prosecution on the basis of the claims 1 to 12 of the request submitted during oral 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 for further prosecution on the basis of claims 1 to 12 as submitted during oral proceedings.

The Registrar:

The Chairman:

G. Rauh

P. Krasa