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D E C I S I O N
of 13 June 2006

Case Number: T 0242/04 - 3.3.06

Application Number: 98948169.2

Publication Number: 1017764

IPC: C10L 1/32

Language of the proceedings: EN

Title of invention:
Water emulsions of Fischer-Tropsch waxes

Patentee:
ExxonMobil Research and Engineering Company

Opponent:
Schumann Sasol (SA) Pty Ltd.

Headword:
Wax/water emulsions/EXXON

Relevant legal provisions:
EPC Art. 117(1)(c), 114(2), 104(1), 99(1), 56
EPC R. 55(c)

Keyword:
"Admissibility of documents filed late before the Opposition Division (yes)"
"Inventive step (no)"
"Apportionment of costs (no)"

Decisions cited:
T 1002/92

Catchword:
-

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Case Number: T 0242/04 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 13 June 2006

Appellant: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 5 December 2003 concerning maintenance of European patent No. 1017764 in amended form.

Composition of the Board:

Chairman: P. Krasa
Members: G. Dischinger-Höppler
U. Tronser

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning maintenance of European patent No. 1 017 764 in amended form on the basis of 10 claims according to the then pending auxiliary request, the independent claims reading:

"1. A hydrocarbon in water emulsion comprising:

60 to 90 wt% of a Fischer-Tropsch derived wax;

from 0.25 to 5 weight % based on the weight of wax and water of a first non-ionic surfactant having an HLB of at least 11.

from 0.05 to 5 weight % based on the weight of wax and water of a second non-ionic surfactant having an HLB of less than 11.

5. A method of forming a wax in water emulsion having 60 to 90 wt%, Fischer-Tropsch wax comprising:

forming a first mixture of wax, water and a first non-ionic surfactant having an HLB of at least 11,

mixing a second non-ionic surfactant having an HLB of less than 11 with the first mixture, and forming the emulsion."

II. A notice of opposition had been filed against the granted patent, wherein the Opponent sought revocation of the patent on the grounds of Article 100(a) EPC for lack of novelty and lack of inventive step (Articles

52(1), 54(2) and 56 EPC). The opposition was based, amongst others, on the following document

A3 US-A-4 675 022.

Upon a communication of the Opposition Division dated 27 March 2003 and attached to the summons for oral proceedings to be held on 24 October 2003, the Opponent filed six further documents under cover of a letter dated 28 August 2003, inter alia

A7 A Brochure entitled "The Use of Sasolwaks in Emulsions", published May 1994;

A9 Atlas Chemical Industries, Chapters 1 to 8, 1984, ICI Americas Inc. and

A11 W. C. Griffin, J. Soc. Cosmetic Chem., 1950 (1), pages 311 to 326.

III. In its decision, the Opposition Division admitted into the proceedings the late filed documents but refused the Proprietor's respective request for apportionment of travel costs of the Proprietor's expert. Further, the Opposition Division rejected for lack of novelty of the subject-matter of Claim 1 the main request which was based on the claims as granted. Instead it was held that the subject-matter of Claims 1 and 5 of the auxiliary request was novel and inventive over the cited prior art.

IV. The Proprietor (hereinafter Appellant) appealed this decision and the Opponent (hereinafter Respondent) filed submissions in reply.

V. Upon requests made by both parties, oral proceedings before the Board of Appeal were held on 13 June 2006, in the course of which the Appellant filed a single set of amended claims labelled as "new main request" (hereinafter: new request).

The claim set of the new request differs from that of the auxiliary request pending before the Opposition Division (point I above) only in that in Claim 5 the term "60 to 90 wt%" has been changed into "greater than 20 wt%".

VI. In essence, the Appellant submitted orally and in writing the following arguments:

- The documents filed late before the Opposition Division should not have been admitted into the proceedings since the lateness of the filing could be justified neither by the Opponent's failure to find them in time in its own libraries nor as a response to the Opposition Division's preliminary view expressed in the communication accompanying the summons to oral proceedings. Admission of the documents because of their relevance created a fresh case and was in contradiction to the requirements of opposition proceedings.

- The technical problem to be solved by the process of Claim 5 in view of document A3 as the closest prior art consisted in providing a stable and pourable emulsion comprising Fischer-Tropsch wax (hereinafter FT wax) and water, which emulsion is concentrated in that it contains more than 20% by

weight of FT wax and is suitable for pipeline transport. It was demonstrated in the examples of the patent in suit that this problem was solved by the claimed sequential admixture of a first non-ionic surfactant having a HLB of at least 11 and a second non-ionic surfactant having a HLB of less than 11, for which no hint was given in document A3 and the other prior art on file.

– Even in the event that the technical problem in view of document A3 would only consist in providing an alternative process, the solution proposed in Claim 5 would not be obvious since it required the threefold selection of the particular embodiment of Example 8, the kind of wax and the non-ionic surfactants, respectively their HLB, from the disclosure of document A3.

– The late filing of documents justified apportionment of costs in the Appellant's favour irrespective of the question whether the travel costs for the proprietor's technical expert were solely occasioned thereby.

VII. The Respondent submitted the following arguments:

– Initiated by the summons to attend oral proceeding before the Opposition Division, further searches at the Respondent's different libraries revealed documents which were more relevant than those on file and were submitted one month before expiry of the period of time given in the summons by the Opposition Division to file written submissions.

The Opposition Division was, therefore, right in admitting the new documents into the proceedings.

– The experiments given in the patent in suit were not suitable as evidence for a particular effect achieved by the process of Claim 5, in particular by the claimed sequential addition of high and low HLB non-ionic surfactant. It was apparent from document A7 that the sequential addition was not essential for obtaining a wax in water emulsion comprising more than 20% by weight of FT wax, and it was known from documents A9 and A11 that the use of two surfactants of different HLB would provide the optimum HLB value suitable for emulsification of a given wax/water system. The subject-matter of Claim 5 of the new request was, therefore, not based on an inventive step over the prior art disclosed in document A3.

– The Appellant has not provided any evidence that the travel costs of its technical expert on the occasion of the oral proceedings before the Opposition Division were caused by the late filed documents.

VIII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of Claims 1 to 10 of the request, labelled new main request, submitted during the oral proceedings and that apportionment of costs be allowed.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. *Late filed documents*

The EPC requires that a notice of opposition must be filed in a written reasoned statement within nine months from the publication of the mention of the grant of the European patent (Article 99(1) EPC) and that this statement has to indicate the extent of opposition, the grounds of opposition and the facts, evidence and arguments in support of these grounds (Rule 55(c) EPC).

However, according to Article 114(2) EPC, the European Patent Office and, hence its organs including the Opposition Division, have a discretionary power to either consider or disregard evidence filed late during the Opposition proceedings. Therefore, admission of late filed documents is not, as a matter of principle, excluded or in contradiction to the requirements for opposition as laid down in Article 99(1) EPC in combination with Rule 55(c) EPC.

In the present case, the opposition was based on the grounds of lack of novelty and lack of inventive step and the Opposition Division, in its decision, used its power under Article 114(2) EPC to admit into the proceedings six documents filed by the Respondent roughly two months before the date for oral proceedings (see above point II). It was reasoned that the documents were relevant to the grounds of opposition. Any new elements of the case created by the new documents concern therefore exclusively the reasoning on which the statement of opposition is based.

Of course, new evidence may complicate a case so that it may be difficult to be dealt with in forthcoming oral proceedings, be it that the content of the documents is extensive or hard to understand, be it that time-consuming experimentation becomes necessary.

It is observed that in response to the late filing, the Appellant under cover of a letter dated 26 September 2003, i.e. roughly one month before the date for oral proceedings, requested a reasonable period of time for consideration of the implications created by the new documents and, if necessary, for carrying out tests.

However, the new documents only comprise a few pages each and are easily to understand in relation to the claimed subject-matter. Therefore, the time which was remaining up to the oral proceedings before the Opposition Division and even during those proceedings was sufficient for consideration of those documents and their implication on the claimed subject-matter and for evaluation of any necessity of experimentation. Such a necessity was not asserted by the Appellant, either during the opposition or appeal proceedings.

The Board concludes, therefore, that the late filing of documents did not, in the present case, give rise to an undue delay of the opposition proceedings.

The Board confirms the Opposition Division's finding that the new documents were highly relevant in the sense that there existed strong reasons why they could prejudice the maintenance of the patent in suit on the basis of the then pending main request (see also T 1002/92, OJ EPO 1995, 605, reasons No. 3).

The Board is, therefore, of the opinion that, by exceptionally admitting the late-filed documents under these circumstances, the Opposition Division properly exercised its discretion under Article 114(2) EPC.

2. *Amendments and novelty*

Since the Appellant's request fails for lack of inventive step of Claim 5, no details need to be given concerning the requirements of Articles 84, 123 and 54 EPC. The Respondent did also not object in this respect.

3. *Inventive Step (Claim 5)*

3.1 The patent in suit and, in particular, Claim 5 aim at a method of forming a wax in water emulsion containing more than 20% by weight of FT wax. It is explained that the emulsion should be stable so that it could be readily transported, e.g. through pipelines (page 2, lines 5 to 18).

Document A3 also relates to stable wax in water emulsions containing FT wax (column 1, line 9 to column 2, line 8 and column 3, lines 7 to 10) and discloses how to prepare such emulsions (column 3, lines 25 to 45).

3.2 The Board, therefore, agrees with the respective opinion of both parties that document A3 qualifies as a suitable starting point for the assessment of inventive step of the subject-matter of Claim 5.

Document A3 discloses wax in water emulsions comprising FT wax and paraffin wax in a weight range of 0.05 to 50 : 1 (column 2, lines 1 to 3) and a non-ionic emulsifier or mixture of non-ionic emulsifiers. The total amount of wax in the emulsions ranges from 5 to 50% and is selected in such a way that the emulsions are pourable or stirrable (column 3, lines 46 to 61). The non-ionic emulsifier or mixture of non-ionic emulsifiers has an average HLB value of 6 to 18, particularly 9 to 15 (column 3, lines 3 to 6).

According to document A3, the emulsions may be prepared in a conventional manner by melting the wax and emulsifier together, pouring the melt into hot water or vice versa and cooling the mixture (column 3, lines 25 to 31). Specific embodiments of this method are shown in the examples of document A3 of which examples 1, 5, 10 and 11 produce emulsions containing more than 20% by weight of FT wax and use an emulsifier having an HLB value of more than 11.

3.3 The subject-matter of Claim 5 differs from this process disclosed in document A3 only in that a second non-ionic surfactant having an HLB value below 11 is added after cooling.

3.4 The Appellant argued that it was apparent from the examples in the patent in suit, in particular from Examples 2 and 3, that the claimed method provided a concentrated emulsion which was stable for at least 5 months and pourable so that it was suitable for pipeline transport. In contrast, no such advantages were hinted at in document A3 which was not concerned with pipeline transport but with the different

technical field of textile finishing and totally silent as regards long-term stability. Instead, it was only required in document A3 that the emulsion be stable and ready for use. It would have been the Respondent's burden to prove that the emulsions of document A3 are also sufficiently pourable and stable for pipeline transport.

3.5 In the experiments of the patent in suit sequential addition of the two different surfactants is compared with simultaneous addition or with addition of only one surfactant. Examples 2 and 7 are presented as illustrating the method of Claim 5. However, only Example 2 refers to long term stability. According to this example an emulsion of 70% by volume of a specific FT wax in water was created by blending at a temperature of 85°C 80 ml of molten wax with hot water containing 1.75 g of an ethoxylated nonyl phenol surfactant with 9 moles of ethylene oxide (EO), cooling the thus obtained paste-like emulsion to room temperature and adding 3.0 g of a second surfactant having 5 moles of EO. In contrast to Example 7 where distilled water was used, the water in Example 2 is specifically FT process water, a preferred water source. The product obtained in Example 7 is said to be a stable emulsion adequate for pipeline transport, although there was a separate water phase, whereas the product of Example 2 is said to be a pourable emulsion which is stable for at least 5 months. It is emphasised that by using the two-step emulsification process a 70% by volume wax in water emulsion can be prepared (see Examples 2 and 7).

The Board observes, that apart from Examples 2 and 7 also comparative Example 4 describes a two-step process in the sense of Claim 5, i.e. the sequential addition of high and low HLB surfactant, the only differences being that solid wax is blended with water at room temperature, that cooling is superfluous and that the amount of the second surfactant is not indicated. The product is, however, not described as an emulsion but as a paste with grains of solid wax. Comparative Example 4 thus shows that a stable emulsion is not necessarily obtained even if the two surfactants are added sequentially.

The Board concludes, therefore, that the improved emulsification and stability effects obtained by the method of Example 2 when compared with the one-step addition of emulsifier in comparative Examples 1 and 3 are not only due to the two-step emulsification.

The same conclusion has to be drawn if Example 2 is specifically compared with comparative Example 3. The latter differs from the former in that both surfactants are added in the hot stage and that no amounts of surfactants are given. It is, however, indicated that the emulsification conditions were the same as in Example 1 where 1.75 g of a surfactant having 9 EO was used (see Example 3). Hence, the total amount of surfactant used in Example 3 may be clearly lower than that used in Example 2 which adds up to 4.75 g.

The Board, further, observes that nothing on file shows that the claimed order of addition of a first surfactant having a higher HLB value and then a second

surfactant having a lower HLB value has any bearing on the effects achieved.

The data in the patent in suit are, therefore, insufficient as evidence for an effect provided by the distinguishing feature in relation to document A3, i.e. the claimed sequential addition of the two different surfactants of specific HLB. On the contrary, they show that any effect obtained in relation to the stability and flowability of the emulsion may as well depend on the emulsification temperature and/or the total amount of surfactant used.

Therefore, the technical problem actually solved by the claimed process in view of document A3 has to be seen as consisting in providing an alternative method of forming a wax in water emulsion comprising more than 20% by weight of FT wax. It is credible that, in accordance with Claim 5, this problem can be solved by the addition of a second non-ionic surfactant having a HLB of less than 11 subsequent to the cooling step.

3.6 It remains to be assessed whether, in view of the available prior art documents, it was obvious for someone skilled in the art to solve this problem by the means claimed.

3.7 The Board notes that the one-step procedure prevails in the examples of document A3 (Examples 1 to 7 and 10 to 12). However, the teaching of a document is not limited to such prevailing embodiments, so that a person skilled in the art would also consider other embodiments, if disclosed as being suitable for the same purpose. In the Board's opinion, a person skilled

in the art would, therefore, also consider Example 8 of document A3 in the expectation of some benefit or other.

3.8 Example 8 discloses a process for the preparation of an emulsion containing 13.5% by weight of paraffin wax and 8.1% by weight of FT wax by melting the wax together with a first non-ionic emulsifier having a HLB value of 12.4 and pouring the melt into hot water. The emulsion so obtained is cooled to room temperature and a second non-ionic emulsifier having a HLB value of 16.1 is added.

Thus, document A3 already discloses the sequential addition of two different non-ionic emulsifiers. This is corroborated by the general disclosure in column 3, lines 40 to 42, of document A3 according to which a "further non-ionic surfactant having an average HLB value of 15-19 may be added to the aqueous dispersion of the invention, as a protective colloid". A person skilled in the art would realise from that general disclosure that the two-step embodiment is not restricted with respect to the amounts of paraffin wax and FT wax given in Examples 8.

Document A3 does not contain any suggestion to exchange the second emulsifier by one having a HLB value of less than 11.

3.9 Apart from the fact that there exists no evidence on file that the order of addition of the two surfactants is of any relevance (point 3.5, paragraph 5), it is, however, known in the art that any particular oil, wax or other material to be incorporated into an emulsion has an individual "required HLB" which means that an

emulsifier having this HLB is likely to make a more stable emulsion than emulsifiers of other HLB values (document A9, page 5, left-hand column; document A11, page 318, left-hand column). This is also true for FT waxes as is illustrated in document A7 on the example of different kinds of SASOLWAKS™ (see page 4, right-hand column).

Further, it is known that it is possible to arrive at exactly the required HLB by blending two emulsifiers of different HLB and that the most stable emulsion systems usually consist of blends of two or more emulsifiers (document A9, page 9, left-hand column, second and third paragraph; document A11, page 315, left-hand column, last paragraph, page 317, left-hand column, second paragraph). Two emulsifiers are also used in most examples where non-ionic emulsifiers are used for producing emulsions of SASOLWAKS™ (document A7, tables on pages 6 and 8).

Thus, it has to be stated that the particular HLB values mentioned in document A3 may be required by the particular mixtures of FT waxes and paraffin waxes to be emulsified. This does not mean that the same HLB values are most suitable for the FT wax used in the patent in suit (page 3, lines 48 to 50).

The finding of the "required HLB value" for a given wax to be emulsified in water, however, belongs to a skilled person's responsibility as is evident from documents A9 (pages 7 and 8) and A11 (page 315, left-hand column) where suitable test series are suggested for this purpose.

The Board, therefore, concludes that it was obvious for someone skilled in the art seeking to provide an alternative to the one-step emulsification method of document A3 for forming a wax in water emulsion containing more than 20% by weight of FT wax to add sequentially two different surfactants as is suggested in Example 8 of document A3 in any order and select the surfactants so that the "required HLB value" is obtained as is proposed in documents A7, A9 and A11.

3.10 Consequently, the new request must fail since the subject-matter of Claim 5 does not meet the requirements of Articles 56 and 52(1) EPC.

4. *Apportionment of costs*

In accordance with Article 104(1) EPC, as a rule, each party to the proceedings shall bear its own costs, but these costs may, for reasons of equity, be apportioned differently by a decision of the Opposition Division or the Board of Appeal. A different apportionment of costs is limited to "costs incurred during taking of evidence or in oral proceedings", the former including the submission of documents (Article 117(1)(c) EPC).

The Appellant argued that a different apportionment of the travel costs of its technical expert on the occasion of oral proceedings before the Opposition Division (see above points III and VI) was equitable because of the unjustified late submission of documents by the Respondent. However, it was rather irrelevant whether or not the travel costs of the technical expert were solely incurred by the late filing.

According to consistent jurisprudence of the Boards of Appeal (Case Law of the Boards of Appeal of the European Patent Office, 2001, VII.C.12), it may be equitable to apportion costs if an abuse of procedure has taken place by the late-filing of documents without justification and if higher costs have been incurred as a result.

In the present case, the Board holds that the Respondent's late submissions were made in response to a communication of the Opposition Division (point II above) where attention was drawn to the question whether the documents on file would relate to FT derived wax and whether they would propose a solution to the technical problem of pipeline transport stated in the patent in suit. Further the late filing was made roughly one month before expiry of the final date, i.e. 26 September 2003, accorded in the communication for making written submissions and roughly two months before the date for oral proceedings. The circumstances are therefore not such that there was no justification for the late filing or that it can be held that the Respondent acted in bad faith. In addition, the Appellant neither gave any reasons let alone any evidence for the necessity of the Appellant's technical expert's presence at the hearing before the Opposition Division nor provided any evidence that the respective trip was caused only by the said late filing. Therefore, apportionment of costs and, in particular, reimbursement of the travel costs of the Appellant's technical expert are not justified.

Hence, the Appellant's request for apportionment of costs must fail.

Order

For these reasons it is decided that:

1. The appeal is dismissed.

2. The request for apportionment of costs is refused.

The Registrar: The Chairman:

G. Rauh P. Krasa