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**Datasheet for the decision  
of 18 January 2019**

**Case Number:** T 1277/12 - 3.3.03

**Application Number:** 03739465.7

**Publication Number:** 1490411

**IPC:** C08F2/22

**Language of the proceedings:** EN

**Title of invention:**

METHOD FOR CONTROLLING THE STABILITY OF EMULSIONS AND  
STABILIZED EMULSIONS

**Patent Proprietor:**

RHODIA CHIMIE

**Opponent:**

BASF SE

**Relevant legal provisions:**

EPC Art. 54

**Keyword:**

Novelty (no) (all requests)



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Case Number: T 1277/12 - 3.3.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.03**  
**of 18 January 2019**

**Appellant:** BASF SE  
(Opponent) Global Intellectual Property  
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67056 Ludwigshafen (DE)

**Respondent:** RHODIA CHIMIE  
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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted on 4 April 2012 rejecting the opposition filed against European patent No. 1490411 pursuant to Article 101(2) EPC.**

**Composition of the Board:**

**Chairman** D. Semino  
**Members:** F. Rousseau  
R. Cramer

## Summary of Facts and Submissions

I. The appeal lies against the decision by the opposition division, posted on 4 April 2012, rejecting the opposition against European patent No. 1 490 411, whose claim 1 read as follows:

"1. Use in an emulsion comprising a hydrophobic phase dispersed in an aqueous phase, or an aqueous phase dispersed in a hydrophobic phase, and less than 4% by weight of a surfactant, for controlling the stability of said emulsion, of a block copolymer selected from the group consisting of:

(block A)-(block B) di-block copolymers,  
-(block A)-(block B)-(block A) tri-block copolymers,  
and  
-(block B)-(block A)-(block B) tri-block copolymers,

wherein

block A is a hydrophilic block,  
block B is a hydrophobic block, and  
block A comprises units deriving from mono-alpha-ethylenically-unsaturated monomers."

II. The contested decision was taken having regard in particular to prior art documents D4, D6 to D10 and D11 (C. Burguière et al., *Macromolecules* 2001, 34, 4439-4450).

III. In the contested decision the opposition division held inter alia that the wording "*less than 4% of a surfactant*" present in claim 1 of the patent in suit had to be interpreted in the light of the specification as meaning that the claimed emulsion comprised a

surfactant. Novelty with respect to D4 was acknowledged, since D4 did not disclose the use of an amphiphilic block copolymer and a specific amount of a surfactant for controlling the stability of an emulsion. Novelty over D6 was also acknowledged, because D6 was silent about the amount of surfactant added. An inventive step with respect to document D7, taken alone or in combination with one of D8, D9, D10 and D11 was acknowledged, because none of D8 to D11 was directed to the use of an amphiphilic block copolymer for controlling the stability of an emulsion.

- IV. An appeal against that decision was lodged by the opponent (hereafter appellant) with a fax of 4 June 2012. With a fax of 10 August 2012 completing the statement of grounds of appeal filed on 2 August 2012, the appellant submitted inter alia documents D12 and D14 to D16, as well as the following document:

D13: C. Burguière, et al., *Macromolecules* 2001, 34, 4439.

- V. The notice of appeal of 4 June 2012, the statement setting out the grounds of appeal of 2 August 2012 and the additional letter of the opponent of 10 August 2012 were sent to the patent proprietor (hereafter respondent) under cover of three registered letters dated 11 June 2012, 7 August 2012 and 23 August 2012, respectively. These three registered letters were all sent without advice of delivery. No reply to any of these letters was filed by the respondent.

- VI. In the light of the lack of response from the respondent, this Board in the same composition issued a decision on 7 April 2017 revoking European patent

No. 1 490 411 without issuing a communication nor summoning the parties to oral proceedings. The respondent filed a petition for review by the Enlarged Board of Appeal (EBA) pursuant to Article 112a EPC arguing that the petitioner was unable to exercise its right to be heard, as it had no knowledge of the existence of the appeal until it received the decision of the Board. In decision R 0004/17 of 29 January 2018, the EBA considered that a fundamental violation of the patent proprietor's rights under Article 113(1) EPC had occurred, as the EPO was not in a position to establish that the respondent had received the correspondence in relation to that appeal or learnt of this by other means. Accordingly, the decision of the Board was set aside and the proceedings before the Board were re-opened.

- VII. The respondent filed with letter of 6 July 2018 submissions in response to the statement setting out the grounds of appeal and the additional letter of 10 August 2012 of the appellant. The respondent maintained the patent as granted as main request and submitted 4 auxiliary requests, all auxiliary requests comprising claim 1 as granted.
- VIII. With letter of 20 July 2018 the parties were summoned to oral proceedings to be held on 8 January 2019.
- IX. By a letter of 8 November 2018 the appellant replied to the submissions of the respondent.
- X. In preparation of the oral proceedings, the Board issued a communication in which the preliminary opinion of the Board concerning *inter alia* novelty was indicated. In the preliminary opinion it was noted *inter alia* that D13 was D11 in opposition proceedings.

Having regard to the meaning in the context of granted claim 1 of the wordings "*less than 4% by weight of a surfactant*" and "*for controlling the stability of said emulsion*", the preliminary view of the Board was inter alia that claim 1 of the granted patent lacked novelty over each of D11/D13 and D14.

XI. In response to the Board's communication the respondent announced with letter of 6 December 2018 that they would not attend the oral proceedings, and withdrew its request for oral proceedings.

XII. As far as relevant to the present decision, the appellant's arguments can be summarised as follows:

(a) The meaning of the wording "*less than 4% of a surfactant*" present in claim 1 of the granted patent should be construed broadly, including the lower limit of 0%. Paragraph [0014] of the specification relating to the combined use of a surfactant and a block copolymer merely defined a preferred embodiment of the invention. Moreover, the block copolymers defined in claim 1 should be understood to be surfactants in the light of their structure and the functional feature "*for controlling the stability of said emulsion*". Accordingly, the term surfactant used in claim 1 also covered amphiphilic block copolymers and for this reason the emulsions defined in claim 1 comprised those stabilised only with amphiphilic block copolymers.

(b) Since claim 1 also covered the sole use of amphiphilic block copolymers for stabilizing the emulsion, D4, D6, D13, D14 and D16 were novelty destroying for the subject-matter of said claim.

- XIII. As far as relevant to the present decision, the respondent's arguments can be summarised as follows:
- (a) Documents D12 to D16 had not been cited before the opposition decision and it was not the purpose of the appeal to consider such type of documents. Accordingly, they should be disregarded. If those documents were to be considered, it was requested that the case be remitted to the first instance for further consideration.
  - (b) Claim 1 of the patent should be read in the light of the description. In view of the latter, there was no doubt that the expression "*comprising [...] less than 4% by weight of a surfactant*" meant that (1) the emulsion comprised a surfactant in addition to the block copolymer and (2) that said surfactant was present in an amount of less than 4% by weight. It was absolutely clear in the description, in particular in view of paragraphs [0010] and [0014] that the emulsion should contain both a polymer and a surfactant.
  - (c) Accordingly, the documents cited before the opposition division did not disclose the claimed subject-matter and did not suggest it either.
- XIV. The appellant requested that the decision under appeal be set aside and the patent be revoked.
- XV. The respondent requested that the appeal be dismissed (i.e. that the patent be maintained as granted), or alternatively that the patent be maintained on the basis of any of auxiliary requests 1 to 4, all submitted with letter of 6 July 2018.

## Reasons for the Decision

### *Meaning of claim 1*

1. The reasons for the impugned decision and the arguments of the parties on appeal in relation to novelty and inventive step of the subject-matter of the granted claims rely on the meaning of the wordings "*less than 4% by weight of a surfactant*" and "*for controlling the stability of said emulsion*".
  - 1.1 Having regard to the term "*of*" before the term "*a block copolymer*" and the presence of a comma after the word "*surfactant*", the use defined in claim 1 can be understood to be that of the block copolymer defined in said claim for the purpose of "*controlling the stability of said emulsion*". Moreover, it is implicit for the skilled person in view of said function (i.e. "*for controlling the stability of said emulsion*") and the structural definition of the blocks making the copolymer which are indicated to be hydrophilic and hydrophobic that those block copolymers are surfactants. Therefore, according to the broadest technical sensible reading of claim 1, the amount of surfactant being less than 4% by weight relates to the total amount of surfactant contained in the emulsion, including those block copolymers. Even if to the benefit of the respondent one construed claim 1 as containing an implicit definition that the amount of surfactant of less than 4% by weight related to a surfactant different from the block copolymers defined in claim 1, an amount of less than 4% would merely define the maximum amount of such additional surfactant, if present.



1.2 The Board does not agree with the respondent's argument that claim 1 of the patent should be read in the light of the description as to comprise the feature that the surfactant is present in the emulsion in addition to the block copolymer. It is established case law that novelty of what is claimed has to be assessed on the basis of the wording of the claim, according to its broadest technical sensible meaning, and in order to ensure legal certainty, independently from any alleged intention derivable from the description that the claim should be read in a more restrictive way (Case Law of the Boards of Appeal of the EPO, 8th Edition, 2016, II.A.6.3.4). Hence, in the present case claim 1 cannot be read as to require the presence of a surfactant different from the block copolymer, when a corresponding amendment reflecting the above alleged intention was not introduced in that claim.

1.3 As to the wording "*for controlling the stability of said emulsion*", it does not convey any specific meaning on the type of control achieved by the use of the block copolymer or the magnitude of the effect achieved. In particular, there is no reason to understand that the term "*for controlling the stability*" necessarily implies any improvement of the stability achieved, which is confirmed by paragraph [0012] of the specification according to which the block copolymer can be used for either stabilizing or breaking an emulsion, depending on additional conditions which are not specified in present claim 1. Accordingly, the wording "*for controlling the stability of said emulsion*" does not imply any limitation to the subject-matter of granted claim 1 other than the polymer should have an effect (any effect) on the stability which in itself is already implied by their surfactant structure.

*Novelty*

2. The appellant *inter alia* made a novelty objection based on document D13, which document had already been submitted as D11 before the opposition division and its disclosure addressed in the contested decision in relation to inventive step. Hence, admittance of that document is not an issue and the Board has to take it into consideration.
  
3. D11/D13 discloses a series of diblock and triblock copolymers composed of polystyrene and poly(acrylic acid) used as stabilizers in emulsion polymerization (abstract), examples of which are given in Table 2, on page 4441 (copolymers D1 to D6 for the diblock copolymers and TA1, TA2 and TS1 to TS4 for the triblock copolymers). It is undisputed that the polystyrene and poly(acrylic acid) blocks are hydrophobic and hydrophilic blocks, respectively, the block copolymers being indicated in Table 2 to be amphiphilic. The emulsion polymerization is started through addition of a solution of initiator after preparation of a micellar solution of the block copolymer and addition of the monomer to be polymerized (sections "Preparation of the Micellar Solutions" and "Emulsion Polymerization Procedure" on pages 4441 and page 4442). The block copolymers were found to provide stability efficiency for emulsion-polymerization of styrene and n-butyl acrylate (page 4442 "Efficiency of the Block Copolymer Stabilizers"; page 4443, Table 3; page 4444, Table 4; page 4448, "Emulsion Polymerization of n-Butyl Acrylate" and page 4449 "Conclusions").
  
4. Moreover, it is not disputed that the amount of block copolymer used for the emulsion polymerization reported in D11/D13 is well below 4% by weight based on the

weight of the emulsion, as can be verified using the concentration of the block copolymers provided in Tables 3 and 4 (pages 4443 and 4444) and the molecular weight of the block copolymers indicated in Table 2 (page 4441). It is also not disputed that D11/D13 does not envisage the use of a conventional surfactant in addition to the amphiphilic block copolymer.

Accordingly, whether the amount of surfactant being less than 4% by weight defined in operative claim 1 relates to the total amount of surfactant contained in the emulsion, including the block copolymers or to the amount of surfactant different from the block copolymers (see above section 1.1 concerning the meaning to be attributed to the wording "*less than 4% by weight of a surfactant*"), D11/D13 discloses all features of granted claim 1, since claim 1 does not mandatorily require the presence of a surfactant in addition to the block copolymer.

5. Accordingly, the subject-matter of claim 1 of the main request lacks novelty over D11/D13. The main request is therefore not allowable. Under these circumstances, it is not necessary to address the other objections raised by the appellant against claim 1 of the main request.

*Auxiliary requests 1 to 4*

6. Auxiliary requests 1 to 4 all comprise claim 1 as granted, the amendments or deletions operated in those auxiliary requests concerning other claims. Accordingly, the amendments contained in the auxiliary requests cannot overcome the negative finding of the Board concerning the main request.

*Issuing of decision*

7. As the respondent withdrew its request for oral proceedings, and the appellant only requested oral proceedings if its request for revocation of the patent were not granted, the Board can issue a decision without holding oral proceedings.

**Order**

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

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



B. ter Heijden

D. Semino

Decision electronically authenticated