

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 23 June 2020**

Case Number: T 1845/18 - 3.3.10

Application Number: 15194729.8

Publication Number: 3023476

IPC: C09K8/38, B01F17/00, C09K8/518,
C09K8/528, C09K8/536, C09K8/54,
C09K8/584, C09K8/594, C09K8/70,
C09K8/94, C11D1/00, C23F11/00

Language of the proceedings: EN

Title of invention:
MULTIFUNCTIONAL FOAMING COMPOSITION WITH WETTABILITY
MODIFYING, CORROSION INHIBITORY AND MINERAL SCALE INHIBITORY/
DISPERSANTS PROPERTIES FOR HIGH TEMPERATURE AND ULTRA HIGH
SALINITY

Applicant:
Instituto Mexicano Del Petróleo

Headword:

Relevant legal provisions:
EPC Art. 123(2), 111(1)
RPBA 2020 Art. 11, 12(2)

Keyword:

Amendments - extension beyond the content of the application
as filed (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1845/18 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 23 June 2020

Appellant: Instituto Mexicano Del Petróleo
(Applicant) Av. Eje Central Lázaro Cárdenas Norte No. 152
Col. San Bartolo Atepehuacán
México, C. P. 07730 (MX)

Representative: Swan, Elizabeth Mary
Withers & Rogers LLP
4 More London Riverside
London SE1 2AU (GB)

Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 7 February 2018
refusing European patent application No.
15194729.8 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairwoman R. Pérez Carlón
Members: M. Kollmannsberger
W. Van der Eijk

Summary of Facts and Submissions

- I. The appeal lies from the decision of the Examining Division to refuse European Patent Application No. 15194729.8.
- II. In the appealed decision the Examining Division came to the conclusion that the claims of all pending requests before it contained subject-matter going beyond the application as originally filed and thus contravened Article 123(2) EPC.
- III. In the notice of appeal, the appellant requested the appealed decision to be set aside and the case to be remitted to the Examining Division either for further examination or with the order to grant a patent with the claims of the main request or of the first or second auxiliary requests, filed with the statement of grounds of appeal and corresponding to the respective requests in the appealed decision.

During a telephone conversation with the appellant's representative on 18 June 2020 it was clarified that the appellant's main request was to set aside the decision under appeal and to remit the case to the Examining Division for further prosecution.

- IV. Claim 1 of the Main Request reads

A multifunctional foaming composition with wettability modifying, corrosion inhibitory and inhibitory/dispersants of mineral scale properties for high

temperature and ultrahigh salinity, characterized by the combination of supramolecular complexes resulting from the interaction of:

(a) alkyl amido propyl hydroxysultaine, wherein the alkyl amido propyl hydroxysultaine is selected from: ethyl-amido-propyl hydroxysultaine; propyl-amido-propyl hydroxysultaine; butyl-amido-propyl hydroxysultaine; pentyl-amido-propyl hydroxysultaine; amido-propyl-hexyl hydroxysultaine; amido-propyl-heptyl hydroxysultaine; octyl-amido-propyl hydroxysultaine; nonyl-amido-propyl hydroxysultaine; decyl-amido-propyl hydroxysultaine; undecyl-amido-propyl hydroxysultaine; dodecyl-amido-propyl hydroxysultaine; tetradecyl-amido-propyl hydroxysultaine; hexadecyl-amido-propyl hydroxysultaine; octadecyl-amido-propyl hydroxysultaine; coco-amido-propyl hydroxysultaine; and mixtures of two or more of these alkyl amido propyl hydroxysultaines;

and (b(i)) alkyl hydroxy sulphonates of sodium, wherein the alkyl hydroxy sulphonates of sodium are selected from: 3-hydroxybutane-1-sulfonate of sodium; 3-hydroxypentane-1-sulfonate of sodium; 3-hydroxyhexane-1-sulfonate of sodium; 3-hydroxiheptano-1-sulfonate of sodium; 3-hydroxyoctano-1-sulfonate of sodium; 3-hydroxynonano-1-sulfonate of sodium; 3-hydroxydecano-1-sulfonate; 3-hydroxyundecano-1-sulfonate of sodium; 3-hydroxydodecano-1-sulfonate of sodium; 3-hydroxytetradecano-1-sulfonate of sodium; 3-hydroxyhexadecano-1-sulfonate of sodium; 2-hydroxybutane-1-sulfonate of sodium; 2-hydroxypentane-1-sulfonate of sodium; 2-hydroxyhexano-1-sulfonate of sodium; 2-hydroxyheptano-1-sulfonate of sodium; 2-hydroxyoctano-1-sulfonate of sodium; 2-hydroxynonano-1-

sulfonate of sodium; 2-hydroxydecano-1-sulfonate sodium; 2-hydroxyundecano-1-sulfonate of sodium; 2-hydroxydodecano-1-sulfonate of sodium; 2-hydroxytetradecano-1-sulfonate of sodium; 2-hydroxyhexadecano-1-sulfonate of sodium and mixture of two or more of these alkyl hydroxysulfonates of sodium;

and (b(ii)) alkenyl sulphonates of sodium, wherein the alkenyl sulphonates of sodium, are selected from: but-2-en-1-sulfonate of sodium; pent-2-en-1-sulfonate of sodium; hex-2-en-1-sulfonate of sodium; hept-2-en-1-sulfonate of sodium; oct-2-en-1-sulfonate of sodium; non-2-en-1-sulfonate of sodium; dec-2-en-1-sulfonate of sodium; undec-2-en-1-sulfonate of sodium; dodec-2-en-1-sulfonate of sodium; tetradec-2-en-1-sulfonate of sodium; hexadec-2-en-1-sulfonate of sodium and mixtures of two or more of these alkenyl sulphonates of sodium;

and (c) cationic surfactants selected from tetra-alkyl ammonium halides, wherein the tetra-alkyl ammonium halides are selected from: butyl trimethyl ammonium chloride; hexyl trimethyl ammonium chloride; octyl trimethyl ammonium chloride; decyl trimethyl ammonium chloride; dodecyl trimethyl ammonium chloride; trimethyl tetradecyl ammonium chloride; hexadecyl trimethyl ammonium chloride; butyl trimethyl ammonium bromide; hexyl trimethyl ammonium bromide; octyl trimethyl ammonium bromide; decyl trimethyl ammonium bromide; dodecyl trimethyl ammonium bromide; tetradecyl trimethyl ammonium bromide; and hexadecyl trimethyl ammonium bromide;

and (d) copolymers based in itaconic acid/sodium vinyl sulphonate and/or terpolymers derived from itaconic acid/sodium vinyl sulphonate/aconitic acid.

Claim 8 of the main request reads:

Use of a foaming composition of the preceding claims with wettability modifying properties, corrosion inhibitory and inhibitory of mineral scale of calcium carbonate and sulfates of calcium, barium and strontium, to generate stable foams, favorably modify the wettability, inhibiting corrosion and inhibit/disperse mineral scale under high temperature conditions wherein the operating temperature is up to 200 °C, high pressure conditions wherein the operating pressure is up to 8000 psi (563 Kg/cm²), ultra-high salinity wherein salinity as sodium chloride is up to 400,000 ppm, and high concentrations of divalent ions, wherein the total hardness as calcium carbonate is up to 250,000 ppm.

- V. Claim 1 of the first auxiliary request corresponds to claim 8 of the main request wherein the technical features of the composition according to claim 1 of the main request have been incorporated.

Claim 1 of the second auxiliary request corresponds to claim 1 of the main request with the additional introduction of the feature "*and (e) a zwitterionic geminal liquid which is linear or branched and which is selected from: bis-N alkenyl N polyether beta amino acid; bis-N-alkyl-N-polyether-beta amino acid; and bis-N, N-dialkyl-N- polyether betaine, and that increases the wettability modifier properties in a weight percentage of 1 to 10%*". Furthermore, the second possibility in item (d) has been deleted.

Claim 8 of the second auxiliary request is worded as claim 8 of the main request.

Reasons for the Decision

1. The appeal is admissible.

Main Request

2. Amendments (Article 123(2) EPC)

- 2.1 The claims are directed to a multifunctional foaming composition comprising the components (a), (bi), (bii), (c) and (d) (claim 1) and its use (claim 8). The indexing (a), (bi), (bii) etc. has been introduced during the examination procedure for better readability. Independent claims 1 and 8 are derived from the original application documents as follows:

Claim 1 is derived from original claim 1, wherein the sultaines/betaines in (a) have been restricted to one out of four possibilities. Furthermore, all the components (a), (bi), (bii) and (c) have been specified by incorporating the respective lists of compounds from original claims 16, 20, 21 and 22.

Claim 8 is derived from original claim 31 with incorporation of process conditions defined in original claims 35, 36, 37 and 38.

Furthermore, other minor amendments have been made; all amendments are discussed below.

- 2.2 The Examining Division was of the opinion that this amended claim 1 extended beyond the content of the original filing for two reasons:

- (i) Original dependent claims 16, 20, 21 and 22 were not dependent on each other. Thus, the combination of their features was not originally disclosed.
- (ii) Additionally, several selections had to be made to arrive at the amended claim. In item (a) one of the four possibilities had to be chosen, but the chosen one was not indicated as preferred. Components (bi) and (bii) were not originally disclosed as AND-combination. Finally, component (c) was initially not limited, and had been restricted now to tetra-alkyl ammonium halides.

2.3 The appellant argues essentially in the following way:

- (i) Dependent claims 16, 20, 21 and 22 are the only passages in the application as originally filed where the components of the composition are specified. Thus, the skilled man would derive the combination of these components in a direct and unambiguous way. The structure of the originally filed claims should not change this assessment.
- (ii) Alkyl amido hydroxy sultaines as components (a) were a preferred group. This could be inferred from the examples. The AND-combination of components (bi) and (bii) was apparent from the wording of original claim 1. Components (c) were originally defined as tetra-alkyl ammonium halides so that no selection was necessary.

- 2.4 In the view of the Board amended claim 1 does not contain subject-matter extending beyond the original disclosure.
- 2.4.1 According to long standing case law of the Boards of Appeal an amendment does not extend beyond the original disclosure and is thus compliant with Article 123(2) EPC if it stays within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, and seen objectively and relative to the date of filing, from the whole of the application documents as filed. A skilled person may not be presented with new technical information after the amendment (see Case Law, 9th Edition, II.E.1).
- 2.4.2 The claims are directed to a multifunctional foaming composition comprising the components (a), (bi), (bii), (c) and (d) and its use. Components (a), (bi), (bii), (c) and (d) are described in general terms in original claim 1, e. g. as "alkyl amido propyl hydroxysultaine" (a), alkyl hydroxy sulphonates of sodium (bi), alkenyl sulphonates of sodium (bii), and so on. Original claims 16, 20, 21 and 22 are the sole disclosures of specific compounds of types (a) to (c) in the application, in addition to the examples. Each of these claims lists compounds for one of the respective components listed in claim 1. A skilled man is not confronted with any new information if these components are specified in claim 1 according to these lists since, in order to put the claimed invention into practise, they would need to retrieve specific examples of each type of compounds required by claim 1 and find them in claims 16, 20, 21 and 22. The lists of these claims have been incorporated into claim 1 as such, no selection of specific compounds has been made. No specific, originally undisclosed combinations have thus

been created. The Board concurs with the appellant that in the present case the structure of the claims cannot outweigh the technical information a skilled person obtains from the original disclosure, i. e. that the dependent claims list specific compounds for the components of the composition defined in original claim 1.

2.4.3 Component (a) has been restricted to one out of four originally mentioned possibilities. This does not add any originally undisclosed information either, but corresponds to a restriction of the claims in line with the original disclosure. Whether the selected possibility was originally highlighted as preferred or not is not decisive. Selecting one out of four originally disclosed possibilities does not add new technical information, at least as long as no specific, originally undisclosed combinations of features are created. This is however not the case here.

2.4.4 Regarding the AND-combination of components (bi) and (bii) the original claim reads as follows:

"A multifunctional foaming composition (...) characterized by the combination of supramolecular complexes derived from the interaction of [component (a)] and anionic surfactants of type [component (bi)] and [component (bii)] with cationic surfactants as [component (c)] and [components (d)]"

Thus, the original wording contains an AND-combination of components (bi) and (bii), in the same way as the amended claim. No subject-matter has been added.

- 2.4.5 With respect to component (c) the original claim reads "*with cationic surfactants as tetra-alkyl ammonium halides and (...)*". In the amended claim, "as" has been replaced with "*selected from*". The Examining Division read "as" as "*such as*" and stated that component (c) has been restricted to tetra alkyl ammonium halides which amounted to a further selection being made. The Board agrees that the original drafting of the claim is somewhat unclear as to whether tetra alkyl ammonium halides are the only possibility for component (c) or not. However, even if one follows the interpretation of the Examining Division, a restriction to tetra alkyl ammonium halides does not add subject-matter since these surfactants are unambiguously disclosed in original claim 1. No selection has to be made, no other possibilities are mentioned.
- 2.4.6 The correction of "*vinyl sodium of sodium*" to "*vinyl sulfonate of sodium*" has been accepted by the Examining Division under Rule 139 EPC and the Board sees no reason to disagree. Other minor modifications in the claim language were not objected to and the Board likewise sees no reason to do so.
- 2.4.7 Thus, none of the amendments made to original claim 1 adds subject-matter or technical information not already disclosed in the original application documents.
- 2.5 With respect to independent claim 8, the Examining Division analogously held that, since original dependent claims 35-38 were drafted as dependent on original claim 31 only, their features could not be combined as in claim 8.

The Board acknowledges that there may be cases where the claim structure chosen in the original disclosure does not allow to combine certain dependent claims without adding new information. However, the Board is of the opinion that in each case the technical information disclosed in the original application documents as a whole has to be assessed. In the present case original claim 31 contains imprecise features such as "*high temperature*", "*high pressure*", "*ultra-high salinity*" and "*high concentration of divalent ions*". Each of these features is individually further defined in original claims 35-38. A skilled person is not confronted with any new information if these more specific definitions are simultaneously introduced into the independent claim.

- 2.6 Independent claims 1 and 8 of the main request do not contain subject-matter extending beyond the application as filed.

The dependent claims have not been amended other than for linguistic improvements and likewise comply with Article 123(2) EPC.

Auxiliary requests

3. Amendments (Article 123(2) EPC)
- 3.1 Claim 1 of the first auxiliary request corresponds to claim 8 of the main request in which the composition has been specified according to claim 1 of the main request.

The Examining Division held the amendments unallowable for the same reasons as the independent claims of the

main request. As discussed above, in the view of the Board these amendments do not introduce originally undisclosed subject-matter. Since the original independent use claim 31 directly refers to the use of the claimed composition ("*Use of a foaming composition of the preceding claims (...)*"), the incorporation of the features of the composition into the use claim does not add any originally undisclosed subject-matter either.

Thus, the claims of the first auxiliary request do not contain any subject-matter extending beyond the application as filed.

- 3.2 Claim 1 of the second auxiliary request corresponds to claim 1 of the main request with the additional introduction of the features of claim 2 (original claim 23). Furthermore, one of the alternatives for component (d) has been deleted. Claim 8 of the second auxiliary request corresponds to claim 8 of the main request.

The Examining Division held the amendments unallowable for the same reasons as the independent claims of the main request. As discussed above, in the view of the Board these amendments do not introduce originally undisclosed subject-matter. Also the further amendments, i. e. the incorporation of the zwitterions disclosed as possible components of the compositions in original claim 23 and the deletion of one of the alternatives for component (d) do not lead to the addition of originally undisclosed subject-matter. No originally undisclosed combinations are created; it is noted that the restricted claim still covers exemplified compositions, e. g. example 9.

Thus, the claims of the second auxiliary request do not contain any subject-matter extending beyond the application as filed.

4. In summary, all of the requests on file comply with the provisions of Article 123(2) EPC.

5. Remittal (Article 111 EPC)

The appellant's main request is to set aside the decision under appeal and to remit the case to the Examining Division for further prosecution.

This request is granted.

The appealed decision is limited to the issue of unallowable amendments under Article 123(2) EPC. Other issues had been raised during examination proceedings but not decided upon. Since the primary object of appeal proceedings is the review of the decision under appeal in a judicial manner (Article 12(2) RPBA 2020), the Board considers this to be a special reason in the sense of Article 11 RPBA 2020 justifying a remittal. Thus, the Board makes use of its discretion under Article 111(1) EPC and remits the case to the Examining Division for further prosecution.

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:

The Chair:



C. Rodríguez Rodríguez

R. Pérez Carlón

Decision electronically authenticated