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**Datasheet for the decision
of 8 March 2023**

Case Number: T 0628/20 - 3.3.06

Application Number: 11709796.4

Publication Number: 2545145

IPC: C10L1/224

Language of the proceedings: EN

Title of invention:

Method for reducing deposits in an engine with a fuel composition comprising a detergent and a quaternary ammonium salt additive

Patent Proprietor:

Innospec Limited

Opponents:

Afton Chemical Corporation
TotalEnergies Marketing Services

Headword:

Detergent + quaternary ammonium salt additives/INNOSPEC

Relevant legal provisions:

EPC Art. 123(2), 123(3)
EPC R. 139

Keyword:

Amendment (main request and auxiliary requests 1-6 and 14-19)

- correction of error (no)

Amendment (main request and auxiliary requests 1-6 and 14-19)

- broadening of claim (yes)

Amendment (auxiliary requests 7-13) - extension beyond the
content of the application as filed (yes)

Decisions cited:

T 0657/11

Catchword:



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Case Number: T 0628/20 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 8 March 2023

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 17 January 2020 revoking European patent No. 2545145 pursuant to Article 101(3) (b) EPC.**

Composition of the Board:

Chairman J.-M. Schwaller
Members: L. Li Voti
 R. Cramer

Summary of Facts and Submissions

- I. The proprietor's appeal lies from the decision of the opposition division to revoke European patent no. 2 545 145.
- II. With its statement of grounds of appeal the appellant contested the decision and filed 19 sets of claims as main request and auxiliary requests 1 to 6 and 8 to 19.
- III. Opponents 1 and 2 (as of now the respondents) submitted inter alia that the correction under Rule 139 EPC requested by the appellant was not available for the main request, that auxiliary requests 1 to 6 and 14 to 19 contravened the requirements of Article 123(3) EPC and that the other auxiliary requests infringed Article 123(2) EPC.
- IV. At the oral proceedings held on 8 March 2023, the parties' final requests were the following:

The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request filed with the statement of grounds of appeal or, in the alternative, that the patent be maintained on the basis of the claims according to one of auxiliary requests 1 to 6 filed with the statement of grounds of appeal, or in the granted version (auxiliary request 7), or of one of auxiliary requests 8 to 19, also filed with the statement of grounds of appeal.

Both respondents requested that the appeal be dismissed.

V. Claim 1 of the main and first auxiliary request reads as follows (amendment with respect to claim 1 as granted being put in evidence):

"1. A method of reducing deposits in a diesel engine, the method comprising combusting in the engine a diesel fuel composition comprising a detergent additive which is not a quaternary ammonium salt or a Mannich reaction product; and a quaternary ammonium salt additive comprising the reaction product of nitrogen containing species having at least one tertiary amine group and a quaternizing agent; wherein the nitrogen containing species is

(i) the reaction product of a hydrocarbyl-substituted acylating agent and a compound comprising at least one tertiary amine group and a primary amine, secondary amine or alcohol group; and

wherein the detergent additive is

(a) the reaction product of a carboxylic acid derived acylating agent and an amine that is made by reacting a poly(isobutene)-substituted succinic acid-derived acylating agent wherein the poly(isobutene) substituent has between 12 to 200 carbon atoms with a mixture of ethylene polyamines having 3 to 9 amino nitrogen atoms per ethylene polyamine and 1 to 8 ethylene groups; wherein the diesel fuel composition comprises less than 1000ppm of the detergent additive and less than 1000ppm of the quaternary ammonium salt additive; and wherein the weight ratio of the quaternary ammonium ~~compound~~salt additive to the detergent additive is from 1:4 to 4:1."

Claim 1 of auxiliary request 7 corresponds to claim 1 as granted and differs from claim 1 of the main request in that the last sentence reads "... and wherein the

weight ratio of the quaternary ammonium compound to the detergent additive is from 1:4 to 4:1."

Reasons for the Decision

Main request and auxiliary request 1

1. *Allowability of a correction under Rule 139 EPC*

1.1 Claim 1 of both requests relates to a method comprising the step of combusting a diesel fuel composition comprising a detergent (in the following "det") additive and a quaternary ammonium (in the following "quat") salt additive, wherein the det additive is not a quat salt or a Mannich reaction product and is a reaction product (a), with the quat salt additive comprising the reaction product of nitrogen containing species of type (i) and a quaternizing agent, and the weight ratio of the quat salt additive to the det additive being from 1:4 to 4:1.

At variance with this claim, claim 1 as granted relates to the weight ratio of the quat compound to the det additive.

1.2 As regards the amendment in said claim, the appellant argued that the wording of granted claim 1 contained an error of transcription that occurred during examination with the filing of amended claims by letters dated 18 February and 23 October 2014. Since it was prima facie recognisable that the above wording was erroneous, the amendment to claim 1 in these requests would amount to an allowable correction of an obvious error under Rule 139 EPC.

1.3 The board notes that irrespective of whether a correction under Rule 139 EPC is available for these requests, it is established jurisprudence (Case Law 10th edition, 2022, chapter II.E.4.2) that for an amendment to be allowable under Rule 139 EPC it must be established (1) that it is obvious that an error is present in the document filed with the EPO, the incorrect information having to be objectively recognisable by the skilled person using common general knowledge and (ii) that the correction of the error is obvious in the sense that it is immediately evident that nothing else would have been intended than what is offered as the correction.

1.3.1 In the present case, the claimed method requires the presence of a quat salt additive comprising the reaction product of nitrogen containing species of type (i) and a quaternizing agent. Thus, even though the exact wording "quaternary ammonium compound" in claim 1 at issue has no antecedent basis in the text of the claim, in the board's view, the skilled reader of the claim, using common general knowledge and having a mind willing to understand, would easily recognise that the quat compound cited in the last sentence of the claim is the previously cited reaction product comprised in the quat salt additive (and this, apart from other side products and solvents possibly present). Further it would be directly apparent to the skilled person that the wording of claim 1 makes technical sense since the weight ratio related to the quat compound explicitly limits the content of the active compound of the additive used.

1.3.2 Therefore, it is not obvious for the skilled person that claim 1 contains an error of transcription, and

the requested correction under Rule 139 EPC is thus already not allowable for this reason.

1.3.3 Considering moreover that the patent (paragraph [0122]) and the application as filed (page 27, lines 1-2) both contain one single paragraph corresponding to the discussed feature of claim 1 at issue, but disclose in their examples the amounts of additives used and their weight ratios with respect to the crude products, which necessarily comprise side products and solvents, it is not immediately evident that in amending the claims nothing else was intended than what is offered as the correction, and furthermore which of the two divergent wordings has to be considered the right one.

1.3.4 The board further notes that in decision T 0657/11 (reasons 3.5.2-3.5.4) in which the correction under Rule 139 EPC was allowed, the case was different as there was an inconsistency in the wording of the process steps in the claims as filed (which is not presently the case), but in said case the description supported conceptually the amendment (which is also not presently the case), so that the skilled person could immediately recognise that the error was present in the claim and in the corresponding passage of the description.

1.3.5 It follows from the above considerations that the amendment in claim 1 at issue does not satisfy the requirements for the allowability of a correction of an error under Rule 139 EPC.

2. *Article 123(3) EPC*

2.1 As regards the compliance of the above amendment with this Article, the appellant argued that the granted

claim 1, reading "*detergent additive ... is not a quaternary ammonium salt*", required that the detergent additive was not a quat compound. Therefore the skilled person reading the claim with common sense would understand that the quat compound recited as one term of the claimed weight ratio is itself an additive, and that the wording "quat compound" has the same meaning as "quat salt additive" recited in the preceding part of the claim. This is supported by the description wherein the terms quat salt (i.e. quat compound) and quat salt additive were used interchangeably, the term "additive" thus being used only as a label for the function of the quat salt.

2.2 The board however notes that it is directly apparent to the skilled person from the wording "*quat salt additive **comprising** the reaction product...*" in claim 1 at issue, that besides the quat salt (compound), the claimed additive may also comprise other components (side products, solvents) necessarily present in the crude product of the reaction of nitrogen containing species of type (i) with a quaternizing agent recited in the claim. This is supported by the patent description (for example paragraphs [0087]-[0089], [0125], [0159], [0206]), which repeats not only the same text as the granted claim 1, but explicitly discloses (example 14) that the weight ratio of the two additives is based on the weight of the crude products, which comprise side products and solvents present in the final product of reaction obtained by the preparation methods in examples 8 and 9 (paragraphs [0200]-[0201]) relating to the preparation of a quat salt additive according to claim 1 at issue. Example 15 (paragraph [0207]) also confirms that the amounts of additives are based on the crude products of the preceding examples. Therefore, in the board's view, any

reference in the description to the quat salt (see for example paragraphs [0024], [0087]-[0089], [0113], [0125]) only identifies the active compound contained in the additive.

- 2.2.1 The fact that example 9 (paragraph [0201]) recites that the "*Additive Q2, a quaternary ammonium salt was prepared as follows*" does not support the appellant's argument either, since additive Q1 of example 8 (paragraph [0200]) is instead identified as "*a quaternary ammonium salt additive prepared as follows*" and both additives Q1 and Q2 are used in example 14 as **crude products**. Therefore in the board's view, the wording of example 9 intends simply to focus on the quat salt (compound) prepared and contained in the final crude product, but this cannot be interpreted to mean that the terms "quat salt" and "quat salt additive" have the same meaning within the context of the patent.
- 2.2.2 Therefore the skilled person reading claim 1 at issue understands that the term "additive" is not simply used to identify the function of the quat salt, but also relates to the crude products of the reaction recited in claim 1, whilst the term "quat compound" in granted claim 1 instead identifies the quat salt compound contained in such crude reaction products. The terms quat salt additive and quat compound have thus a different technical meaning.
- 2.2.3 It follows that the range of weight ratios recited in the granted claim 1 is necessarily different from the one defined in amended claim 1. In this respect, as submitted for instance by respondent 1 (point 7.2 of its reply to the statement of grounds of appeal), when the quat salt additive contains 80% quat compound, a

fuel containing 50 ppm of this additive and 200 ppm of a det additive would have a weight ratio of quat salt additive to det additive of 1:4, and so in accordance with the lower limit of claim 1 at issue, but a weight ratio of quat compound to det additive of 1:5, i.e. outside the range of granted claim 1.

Hence, since the amended claim 1 does not contain any longer a feature relating to the weight ratio of the quat compound (contained in the quat salt additive) to the detergent additive, it encompasses weight ratios of the quat compound to the detergent additive which are beyond the scope of granted claim 1.

- 2.2.4 Claim 1 of both the main and the first auxiliary request thus does not comply with the requirements of Article 123(3) EPC. It follows that the main and first auxiliary requests are not allowable.

Auxiliary requests 2-6 and 14-19

3. Since claim 1 of all these requests contains the wording "*...the weight ratio of the quaternary ammonium salt additive to the detergent additive is from 1:4 to 4:1*" also recited in claim 1 of the main and first auxiliary requests, and since it does not recite the ratio of the quat compound to the det additive as defined in granted claim 1, the deficiency under Article 123(3) exposed above also applies to auxiliary requests 2 to 6 and 14 to 19.

Therefore these requests are not allowable either.

4. *Auxiliary request 7 - Article 123(2) EPC*

- 4.1 Claim 1 of this request corresponds to claim 1 as granted and requires a weight ratio of quat compound to det additive of 1:4 to 4:1.

It is not in dispute that the application as filed discloses in a single passage (page 27, lines 1-2) a similar weight ratio, but related to the quat salt additive and not to the quat compound.

- 4.2 The appellant argued that it was derivable from the application as filed that the wordings "quat salt additive" and "quat compound" had the same meaning, since they were used interchangeably, the word "additive" being only used as a label for the function of the quat salt.

- 4.3 For the board, as exposed above with respect to the similar passage of the description, the application as filed discloses that the quat salt additive comprises the quat salt (compound) (see for example page 4, lines 4-17). Moreover, the disclosure that the quat salt is the reaction product of one of the reactions recited in claim 1 and that the det additive is not a quat salt (see for example page 7, last paragraph; page 16, lines 23-30; page 27, line 15 ff) does not mean that the said reaction product consists exclusively of the quat compound, let alone that the terms "quat salt additive" and "quat compound" have the same meaning. In fact, examples 14 to 16 of the application as filed describe the amounts of additives used and their weight ratios related to the **crude products** obtained by the methods disclosed in the preceding examples, which contain necessarily side products and solvents.

It is thus evident that also within the context of the application as filed the terms "quat salt" - which is a

quat compound - and "quat salt additive" had not the same meaning.

4.4 Because of this difference in meaning, the range of weight ratios in claim 1 at issue cannot be held identical to that disclosed on page 27, lines 1-2 of the application as filed, as also apparent from the example reported in point 2.2.3 above.

4.5 Therefore the board concludes that the range of weight ratios claimed is not directly and unambiguously disclosed in the application as filed, so that claim 1 of auxiliary request 7 infringes Article 123(2) EPC and is therefore not allowable.

5. Auxiliary requests 8 to 13 - Article 123(2) EPC

Claim 1 of all these requests containing the same expression as auxiliary request 7, namely that "...the weight ratio of the quaternary ammonium compound to the detergent additive is from 1:4 to 4:1", for the same reasons as above, none of them complies with the requirements of Article 123(2) EPC for the same reasons.

6. The board thus concludes that none of the requests is allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



A. Pinna

J.-M. Schwaller

Decision electronically authenticated