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**Datasheet for the decision
of 27 November 2019**

Case Number: T 1714/16 - 3.3.06

Application Number: 10731679.6

Publication Number: 2449080

IPC: C11D3/37, C11D1/02, C11D1/37,
C11D1/65, A61K8/81, A61K8/895,
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C11D1/94, C11D3/22, C11D11/00,
C11D17/00

Language of the proceedings: EN

Title of invention:

AMINOSILICONE CONTAINING DETERGENT COMPOSITIONS AND METHODS OF
USING SAME

Patent Proprietor:

The Procter & Gamble Company

Opponents:

Henkel AG & Co. KGaA
L'Oréal

Headword:

Procter&Gamble/Aminosilicones

Relevant legal provisions:

EPC Art. 54, 56, 123(2)

Keyword:

Inventive step - reformulation of the technical problem -
obvious modification
Amendments - allowable (yes)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 1714/16 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 27 November 2019

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
18 May 2016 concerning maintenance of the
European Patent No. 2449080 in amended form.**

Composition of the Board:

Chairman P. Ammendola

Members: S. Arrojo

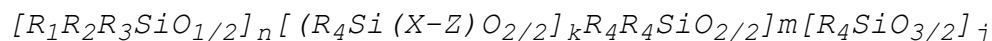
J. Hoppe

Summary of Facts and Submissions

- I. Opponent 1 (hereinafter "the appellant") filed an appeal against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 1, European patent No. 2 449 080 met the requirements of the EPC.
- II. In its statement of grounds of appeal, the appellant requested to set aside the decision of the opposition division and to revoke the patent in its entirety for non-compliance with the requirements of Articles 83, 54 and 56 EPC.
- III. Opponent 2 (party as of right) filed a notice of appeal but did not file any statement of grounds of appeal and subsequently withdrew its appeal with fax dated 23 September 2016.
- IV. In its reply to appeal filed on 22 May 2017, the patentee (hereinafter "the respondent") requested to dismiss the appeal and to maintain the patent on the basis of the main request (corresponding to the auxiliary request 1 found to meet the requirements of the EPC by the opposition division) or, as an auxiliary measure, in amended form on the basis of one of auxiliary requests 1-17 filed together with this reply.
- V. Claim 1 of the main request reads:

"A cleaning and/or treatment composition comprising

a. an aminosilicone having the structure of Formula I

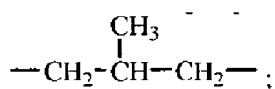


(Formula I)

wherein

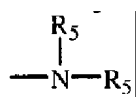
ii. R_1, R_2, R_3 and R_4 are each independently selected from H, OH, C_1-C_{20} alkyl, C_1-C_{20} substituted alkyl, C_6-C_{20} aryl, C_6-C_{20} substituted aryl, alkylaryl, C_1-C_{20} alkoxy and combinations thereof, preferably R_1 is each independently selected from $H, OH, methyl, C_1-C_{20}$ alkoxy, and combinations thereof and preferably R_2, R_3 and R_4 are methyl groups;

iii. X is a divalent alkylene radical comprising with 2-12 carbon atoms, or independently selected from the group consisting of $-(CH_2)_s-$; $-CH_2-CH(OH)CH_2-$;

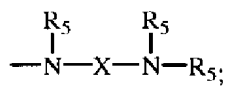


and mixtures thereof, wherein s is on average from 2 to 10, preferably s is on average from 2 to 6;

iv. Z is selected from the group consisting of



and



wherein R_5 is selected from H, C_1-C_{20} alkyl, C_1-C_{20} substituted alkyl, and combinations thereof, preferably R_5 is selected from the group consisting of H, C_1-C_{20} alkyl, and combinations thereof;

v. k is on average from 3 to 20;

vi. m is on average from 100 to 2,000, preferably m is on average from 150 to 1,000;

vii. n is on average from 2 to 10, such that $n = j + 2$, preferably n is on average from 2 to 6, such that $n = j + 2$; and

viii. j is on average from 0 to 10, preferably j is on average from 0 to 4;

b. a deposition aid polymer;

c. an anionic surfactant, preferably the anionic surfactant comprises a material selected from the group of C_8 - C_{22} fatty acid or its salts; C_{11} - C_{18} alkyl benzene sulfonates; C_{10} - C_{20} branched-chain and random alkyl sulfates; C_{10} - C_{18} alkyl ethoxy sulfates, wherein x comprises from 1-30; mid-chain branched alkyl sulfates; mid-chain branched alkyl alkoxy sulfates; C_{10} - C_{18} alkyl alkoxy carboxylates comprising 1-5 ethoxy units; modified alkylbenzene sulfonate; C_{12} - C_{20} methyl ester sulfonate; C_{10} - C_{18} alpha-olefin sulfonate; C_6 - C_{20} sulfosuccinates; and combinations thereof;

d. optionally, a fatty acid; and

e. optionally, an adjunct ingredient

wherein the aminosilicone has an amine equivalent of from 500 g/mol to 4000 g/mol."

VI. On 27 March 2019 the board issued a communication in order to assist the parties in preparation to the oral proceedings scheduled for 27 November 2019. In this communication the board expressed the preliminary opinion that the main request appeared to be novel and

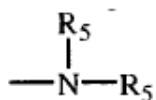
inventive in view of the cited prior art. It was however pointed out that the feature "amine equivalent" in claim 1 appeared to be anticipated by the cited prior art documents D2 (EP O 974 335 A1), D13 (EP 1 555 011 A1) and D14 (EP 1 726 293 A1).

VII. With a letter dated 27 September 2019 the respondent *inter alia* filed new auxiliary requests 1-6.

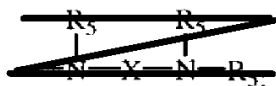
VIII. Claim 1 of auxiliary request 1 is identical to claim 1 of the main request.

Claim 1 of auxiliary request 2 only differs from that of the main request in the following amendments at point "(iv)":

~~"iv. Z is selected from the group consisting of~~



~~and~~



~~wherein R₅ is selected from H, C₁-C₂₀ alkyl, C₁-C₂₀ substituted alkyl, and combinations thereof, preferably R₅ is selected from the group consisting of H, C₁-C₂₀ alkyl, and combinations thereof;"~~

IX. With letter dated 25 October 2019, the appellant requested not to admit the new auxiliary requests into the proceedings as late filed.

X. At the oral proceedings, the parties' final requests were as follows:

The **appellant** requested to set aside the decision of the opposition division and to revoke the patent in its entirety.

The **respondent** requested that the appeal be dismissed or, as an auxiliary measure, that the patent be maintained in amended form on the basis of one of auxiliary requests 1-6 filed with letter dated 27 September 2019.

Reasons for the Decision

1. Main request - Article 56 EPC
 - 1.1 The board has concluded that the main request does not comply with the requirements of Article 56 EPC for the following reasons.
 - 1.2 Closest prior art
 - 1.2.1 It is common ground among the parties that example 1 of document D2 represents the closest prior art.

The board sees no reason to take a different stance.

The board notes that this example discloses a shampoo composition including the aminosilicone "trimethylsilylamodimethicone" commercialised as "FINISH WT 1650" and having an amine index of 0.6 meq/g which corresponds to an amine equivalent in the sense of the patent in suit of 1666 g/mol (i.e. falling within the range defined in claim 1), sodium lauryl sulfate (i.e. an anionic surfactant) and a homopolymer of diallyl dimethyl ammonium chloride (i.e. a deposition aid polymer).

1.2.2 The board also notes that in document D2, the general aminosilicone "trimethylsilylamodimethicone" is described with formula II having indexes "n" and "m" (see page 7, line 11 and page 5, lines 48-50). Since the commercial aminosilicone "FINISH WT 1650" in example 1 of D2 is said to be a "trimethylsilylamodimethicone", it represents a specific embodiment of the general class described by formula II.

However, this formula II only justifies the conclusion that also in the chemical formula of the specific commercial product "FINISH WT 1650" the indexes "n" and "m" must fall somewhere within the ranges of formula II as described in pages 5, lines 48-50 (i.e. $n = 0-1999$ and $m = 1-2000$).

1.2.3 Therefore, even when the disclosure provided by example 1 of D2 is interpreted in the light of formula II in the same document, the subject-matter of claim 1 differs from this prior art in that the indexes "k" and "m" in formula I (respectively corresponding to "m" and "n" in formula II of D2) are respectively required to be on average "*from 3 to 20*" and "*from 100 to 2,000*".

1.3 Technical problem solved according to the patent in suit

1.3.1 The respondent identified the technical problem solved in the patent in suit in the provision of a cleaning composition having the advantageous properties mentioned in paragraph [0029] of the patent.

1.3.2 The board however notes that

- the advantageous properties referred to in paragraph [0029] of the patent in suit are only vaguely described (see in particular "*compositions having improved rheology and a minimal need for external structurants or complex manufacturing steps ... improved silicone delivery compared to other silicones and aminosilicones known in the art*"); and that

- the experimental data reported in the patent in suit only justify the conclusion that the level of "stringiness" (as measured by the break time) of the composition according to the invention is reduced with respect to compositions not containing aminosilicones or containing aminosilicones with an amine equivalent falling outside of the claimed range (see paragraph [0079], Tables II, V and VI).

Hence, the board considers that the only advantageous property which is plausibly obtained when using aminosilicones as defined in claim 1 is a reduced stringiness (i.e. a reduction of the break time of the composition, which from now on will also be referred to as the "aimed level of stringiness") and, in particular, that the sole feature of such aminosilicones that appears disclosed as essential for such advantageous property is the amine equivalent.

1.4 Solution

The solution proposed in claim 1 is to provide aminosilicones of formula I with an index "k" of 3-20 and an index "m" of 100-2000.

1.5 Success of the solution - Redefinition of the technical problem solved vis-à-vis the prior art

- 1.5.1 Since the composition defined in claim 1 includes an aminosilicone having a formula and an amine equivalent corresponding to those used in the cited examples of the patent in suit, the board has no reason to doubt that the compositions of the invention provide the above-mentioned aimed level of stringiness.

- 1.5.2 However, it is apparent that the closest prior art (i.e. example 1 of D2) also contains an aminosilicone with an amine equivalent falling within the claimed range and whose general formula (i.e. formula II of D2) is largely overlapping with that of the aminosilicone of the invention. Thus, the board considers that the aminosilicone "FINISH WT 1650" already present in the prior art of departure is at least very similar to that of the claimed invention in all aspects, and certainly already displays the sole feature (i.e. the amine equivalent) that the patent in suit identifies as essential for producing the aimed level of stringiness. Accordingly, the board considers that the composition in example 1 of D2 would also give rise to the above-mentioned aimed level of stringiness.

- 1.5.3 Since both the composition of the invention and that disclosed in example 1 of D2 are considered to provide the aimed level of stringiness, the technical problem solved vis-a-vis the prior art must be reformulated in a less ambitious way, namely as that of providing a further (i.e. alternative) cleaning composition having the aimed level of stringiness.

- 1.6 Obviousness
 - 1.6.1 The board considers that, since the aminosilicone used in example 1 of D2 is a commercially available

"trimethylsilylamodimethicone" represented by formula II, and since the invention in document D2 is clearly oriented to compositions including aminosilicones of this formula, it would be obvious for the skilled person to solve the posed technical problem by formulating alternative compositions in which the "FINISH WT 1650" is replaced by other "trimethylsilylamodimethicones" falling within this general formula and also possessing an amine equivalent similar to that of "FINISH WT 1650". In particular, starting from example 1 of D2 and looking for alternative compositions with similar advantageous properties as those of example 1, the skilled person would be prompted to work within the most preferred ranges of formula II. By working within these preferred ranges, and in particular by selecting the combination of the top end-values of these preferred ranges (i.e. $n=149$ and $m=10$) - which fall within (and therefore anticipate) the relevant indexes for formula I (i.e. $m=100-2000$ and $k=3-20$) defined in claim 1 of the patent in suit - the skilled person would arrive at the subject-matter of claim 1.

1.6.2 The respondent argued that, in order to arrive at the subject-matter of claim 1, the skilled person would need to purposefully select the top end-values of the preferred ranges for both indexes "n" and "m" in formula II of D2. Since there would be no specific reason to select those values in particular from all the possible values in the range, the subject-matter of claim 1 should not be considered to be obvious in view of document D2.

1.6.3 The Board does not agree with this argumentation for the following reasons:

First, each of the top end-values of the preferred ranges described in D2 represent clear and unambiguous disclosures related to these ranges, that is, the skilled person would not require any selection to consider "trimethylsilylamodimethicones" having these index values.

Second, the skilled reader would also consider obvious to solve the technical problem by replacing the ingredient "FINISH WT 1650" of formula II of D2 by any of the "trimethylsilylamodimethicones" encompassed by the general formula II of D2. Although not all these equally suggested solutions would lead to the subject-matter of claim 1 under consideration, arriving at the proposed solution would simply require an arbitrary selection (i.e. deprived of inventive merits).

Third, the combinations of the end-values of the above-mentioned index ranges of formula II of D2 appear to the skilled person as particularly suggested, precisely because they are explicitly disclosed as end-values of preferred ranges, therefore providing an incentive for the skilled person to consider them when looking for alternatives.

- 1.7 The board therefore concludes that the subject-matter of claim 1 is not inventive in view of the combination of example 1 of D2 with the general teachings of this document.
2. Auxiliary request 1 - Article 56 EPC
 - 2.1 Since claim 1 of this request is identical to that of the main request, it follows that the same arguments and conclusions as presented for the main request apply for this request.

- 2.2 The board therefore concludes that auxiliary request 1 is not allowable under Article 56 EPC.
3. Auxiliary request 2 - Article 123(2) EPC
- 3.1 Auxiliary request 2 complies with the requirements of Article 123(2) EPC.
- 3.2 The opponent argued that the selection of the monoamine alternative for the moiety "Z" and of the group of options for "R₅" in formula I of claim 1 corresponded to multiple arbitrary selections from lists of originally filed alternatives, therefore contravening Article 123(2) EPC.
- 3.3 The board does not follow this argumentation. Even if it were considered that the selection of the monoamine group from the two originally disclosed alternatives represents an arbitrary selection, it is not apparent how the restriction of the R₅ to a group consisting "*of H, C₁-C₂₀ alkyl, and combinations thereof*" could be regarded as an arbitrary (second) selection from a list. In particular, it is apparent that this option was originally defined as a preferred group of alternatives in claim 1, implying that the amendment merely represents a restriction of the claim to the most preferred group of alternatives for R₅ and not the result of several arbitrary selections of individual elements from a list.

In any case it is noted that, even if for the sake of the argument the issue were regarded from the perspective of selections from lists, in the present request the originally claimed group of elements has simply been restricted by deleting one of the options

for R₅ in the broader group of alternatives (i.e. the "*C₁-C₂₀ substituted alkyl*"), implying that the amendment does not lead to the singling out of a particular combination of elements going beyond the contents of the application as originally filed.

3.4 The board therefore concludes that the subject-matter of claim 1 does not extend beyond the contents of the application as originally filed.

4. Auxiliary request 2 - Articles 83 and 84 EPC

The board is satisfied that the claims of this auxiliary request comply with the requirements of Articles 83 and 84 EPC. This also has not been disputed by the appellant.

5. Auxiliary request 2 - Article 54 EPC

The board is satisfied that auxiliary request 2 meets the requirements of Article 54 EPC. This has not been disputed by the appellant.

6. Auxiliary request 2 - Article 56 EPC

The board has concluded that auxiliary request 2 meets the requirements of Article 56 EPC for the following reasons.

6.1 Closest prior art

It is undisputed that example 1 of document D2 represents the closest prior art also in respect of claim 1 under consideration.

In addition to the above-mentioned differences in terms of the indexes of the aminosilicone formula (see point 1.2.3 above), claim 1 (see point VIII above) further differs from example 1 of document D2 in that the amino group is a monoamine (the aminosilicone in example 1 of D2 contains instead diamine groups).

6.2 Problem solved by the invention

For the sake of the argument in favour of the appellant, it is assumed that, as in the main request, the only problem successfully solved by the invention is that of providing alternative compositions with the aimed level of stringiness.

6.3 Obviousness

6.3.1 The appellant argued that, when looking for alternative compositions to that of example 1 of D2, it would be obvious to consider aminosilicones falling within the general formula I of D2 (see page 5, line 40) (a broad formula also encompassing formula II in this document), which explicitly encompasses aminosilicones including monoamine groups (see second option in page 5, line 5 of D2).

6.3.2 The board does not follow this argumentation.

Example 1 of document D2 discloses a composition containing the commercial trimethylsilylamodimethicone "FINISH WT 1650", which is said to fall within the scope of formula II in page 6. It is therefore clear that when starting from example 1, the skilled person would be prompted to explore alternatives within the scope of formula II of D2, that is, to consider aminosilicones containing diamine groups but not

monoamine groups. Furthermore, all the exemplary compositions and the comparative examples in D2 (paragraph [0063]) contain either trimethylsilylamodimethicone (i.e. formula II) or amodimethicone (i.e. formula III), both of which include diamine groups but not monoamine groups. There is therefore no apparent reason to explore alternatives to example 1 by using aminosilicones only falling within the broader formula I in D2, let alone to consider in particular the combination of options in that formula which would lead to an aminosilicone as defined in claim 1.

- 6.3.3 The board therefore concludes that, when looking for alternatives to the composition of example 1 of document D2, and taking into account the general teachings of this document, it would not be obvious for the person skilled in the art to arrive at the subject-matter of claim 1.

- 6.4 The subject-matter of claim 1 is therefore considered to comply with the requirements of patentability under Article 56 EPC. The same applies to dependent claims 2-6 and to the method claim 7, all of which refer back to the subject-matter of claim 1.

- 7. The board therefore concludes that auxiliary request 2 complies with the requirements of the EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in amended form based on the claims of auxiliary request 2, filed with letter of 27 September 2019, and a description to be adapted where appropriate.

The Registrar:

The Chairman:



A. Pinna

P. Ammendola

Decision electronically authenticated