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Datasheet for the decision of 17 January 2020

Case Number: T 1900/17 - 3.3.06

Application Number: 11773710.6

Publication Number: 2614133

IPC: C11D1/835, C11D3/00

Language of the proceedings: EN

Title of invention:
IMPROVEMENTS RELATING TO FABRIC CONDITIONERS

Patent Proprietors:
1) Unilever PLC
2) Unilever N.V.

Opponent:
The Procter & Gamble Company

Headword:
Fabric Conditioners/Unilever

Relevant legal provisions:
EPC Art. 83, 100(b), 111(1)
RPBA Art. 12(4), 13(1)
RPBA 2020 Art. 11

Keyword:
Late-filed evidence - (partly) admitted (yes)
Sufficiency of disclosure - (yes)
Remittal to the department of first instance - (yes)

Decisions cited:
G 0001/03, T 1845/14

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 1900/17 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 17 January 2020

Appellant: (Patent Proprietor 1)	Unilever PLC a company registered in England and Wales under company no. 41424 Unilever House 100 Victoria Embankment London Greater London EC4Y 0DY (GB)
Appellant: (Patent Proprietor 2)	Unilever N.V. Weena 455 3013 AL Rotterdam (NL)
Representative:	Mewburn Ellis LLP City Tower 40 Basinghall Street London EC2V 5DE (GB)
Respondent: (Opponent)	The Procter & Gamble Company One Procter & Gamble Plaza Cincinnatti, Ohio 45202 (US)
Representative:	Gill Jennings & Every LLP The Broadgate Tower 20 Primrose Street London EC2A 2ES (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 9 June 2017 revoking European patent No. 2614133 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	J.-M. Schwaller
Members:	G. Santavicca
	C. Brandt

Summary of Facts and Submissions

I. The appeal lies from the decision of the Opposition Division revoking European patent No. 2 614 133 on the ground that the invention was insufficiently disclosed (Article 100b) EPC).

II. With their grounds of appeal dated 19 October 2017, the Patent Proprietors (hereinafter the Appellants) defended the patent as granted (main request) and submitted sixteen sets of amended claims as auxiliary requests 1 to 16.

III. With its reply, the Respondent submitted the further item of evidence

D12: Surfactant Science Series, volume 72, Nonionic Surfactants: Organic Chemistry, edited by Nico M. van Os (1998).

IV. With a letter dated 7 December 2018, the Appellants enclosed further items of evidence D13 to D18, with D17 being a signed declaration of Dr Nigel Bird, and

D18: "*Partition coefficients of nonionic surfactants in water/n-alkane systems*", Catanoiu et al., Journal of Colloid and Interface Science, 355, 2011, pp. 150-156.

V. In a communication the Board annexed a copy of

D17a: H. Schott, *Hydrophilic-Lipophilic Balance, Solubility Parameter, and Oil-Water Partition Coefficient as Universal Parameters of Nonionic Surfactants*, Journal of Pharmaceutical Sciences, Vol. 84, No 10, 1995, and

gave its provisional opinion that new items of evidence D12 and D17 were admitted into the proceedings whilst D13 to D16 and D18 were not, and that the claimed invention was sufficiently disclosed.

VI. At the oral proceedings before the board the appellants no longer relied on D13 to D16 and the debate focused on the admittance of D17, D17a and D18 and on the question whether the claimed invention satisfied the requirements of Article 83 EPC.

VII. At the closure of the debate, the appellants requested that the decision under appeal be set aside and that the case be remitted to the Opposition Division for further prosecution on the basis of the main request (patent as granted) or of any of auxiliary requests 1 to 16, filed with the grounds of appeal.

The respondent requested that the appeal be dismissed and that auxiliary requests 1 to 7 and documents D13 to D18 and D17a not be admitted into the proceedings.

Reasons for the Decision

1. Admittance of new items of evidence

1.1 According to the case law of the Boards of Appeal of the EPO, 9th edition, 2019, II.C.2 and 4.1, the claimed invention must be sufficiently disclosed as from the effective date of filing of the application. This disclosure is aimed at the person skilled in the art who may rely on common general knowledge to supplement the information contained in the patent. Textbooks and general technical literature form part of the common general knowledge, which however does not normally include scientific articles and patent literature.

1.2 In the present case, D12 indisputably concerns general technical literature on the preparation of ethoxylated alcohols. Moreover, it is relevant to the claimed subject-matter, as it sheds light on the feature "number average degree of polymerisation of ethylene oxide in the product" and on the commercial production of said alcohols, as well as on their structure and surface properties. Hence, the Board exercised its discretion and decided to admit it into the proceedings (Article 12(4) RPBA).

1.3 The filing of D17 is clearly in reaction to the response to the grounds of appeal, in which the respondent maintained that ClogP was an unusual parameter for characterising nonionics and stated that the proprietor has not provided any evidence as to why the skilled person would calculate the ClogP according to their proposed method.

Moreover, D17 is *prima facie* relevant to the issues of the present case, in so far as it addresses the question whether the use of ClogP was unusual for nonionics before the effective date of the patent in suit (as apparent from its Point 6, and from the reference article cited therein (now D17a), wherein attention was in particular drawn to the conclusions thereof). Moreover it shows how the ClogP values mentioned in the examples of the patent were calculated with the Daylight program, which is important for assessing the burden necessary for estimating ClogP values of alkoxylated nonionics from data available from the manufacturers.

1.4 For the Board, also D17a is *prima facie* relevant because in its introduction, first sentence, it addresses the need for reliable and readily obtainable

property or parameter for the classification, characterisation and selection of commercially available nonionic surfactants. Hence, D17a is *prima facie* relevant for the selection of nonionics.

In the second sentence of its introduction, it acknowledges that properties and uses of nonionics largely depend on the balance between the hydrophilic propensity of their polar moieties and the lipophilic propensity of their hydrocarbon tails, as well as (page 1215, penultimate paragraph, first sentence) that numerous attempts to find a universal correlation between the HLB (Hydrophilic-Lipophilic Balance, a known parameter used to quantify the said balance) and a given physicochemical property that is applicable to all categories of nonionic surfactants were unsuccessful. Hence, D17a is *prima facie* relevant as it concerns the hydrophilic/lipophilic balance of nonionics.

Further, on page 1217, heading "Oil-Water Partition Coefficients", first paragraph, it discloses that oil-water partition coefficients are difficult to measure experimentally, because of lengthy contact time required and impact of the critical micelle concentration (cmc), and so any method for estimating partition coefficients instead of measuring them would be advantageous. Hence, D17a is *prima facie* relevant for the estimation of partition coefficients for nonionics.

Finally D17a explains (page 1217, last paragraph) why only oils which are immiscible with water were used instead of **octanol** or benzene, which had a limited solubility (the Board gathers therefrom that octanol was a known, less insoluble hydrophobic solvent for

determining a partition coefficient). Therefore the tabulated value of Tables 1 to 3 is mentioned as log K_{wo}, i.e. a logP (w/oil rather than w/octanol). Thus, the fact that D17a prefers oil-water rather than octanol-water partition coefficients for the study does not detract from its general teaching that partition coefficients are relevant.

In any case, the conclusions of D17a are unequivocal in the sense that the oil-water partition coefficients of most nonionics surfactants can be predicted from their overall solubility parameter with satisfactory dependability; and a parameter such as the partition coefficient, connected to a single relation applicable to all surfactants tested - see figure 1 - can be regarded as universal property of nonionic surfactant.

It follows that D17a is *prima facie* relevant because it shows that a calculated partition coefficient can reliably be used for characterising and selecting nonionics on the basis of the Hydrophilic-Lipophilic Balance.

1.5 Summing up, the combined disclosure of D17 and D17a is *prima facie* relevant because it contradicts the main argument of the respondent that the use of a calculated partition coefficient such as ClogP was unusual for selecting nonionics. Therefore, the Board exercised its discretion under Articles 12(4) and 13(1) RPBA and decided to admit them into the appeal proceedings.

1.6 D18, which was available only after the priority date of the patent, and concerns experimentally measured LogP rather than calculated (ClogP) values, is *prima facie* not relevant and not admitted.

2. Main Request - Sufficiency of the disclosure

2.1 The invention as defined in granted claim 1 and 14 concerns:

"*1. A liquid rinse added fabric treatment composition comprising*
(a) a fabric treatment active in an amount of from 5 to 50 wt %, based on the total weight of the composition,
(b) an antifoam in an amount of from 0.025 to 0.45 wt %, by weight of the total composition and 100 % antifoam activity, and
(c) an antifreeze active wherein, the antifreeze active is an akoxylated non-ionic surfactant having an average alkoxylation value of 4 to 22 and a ClogP of from 3 to 6."

"*14. Use of an antifreeze agent in a composition as defined in any one of claims 1 to 13 to improve freeze recovery of the composition.*"

2.2 According to the contested decision, ClogP was a value characterising one molecule or a composition comprising only one type of molecule, but the ionic surfactant defined in claim 1 was clearly a blend of molecules, because of the use of the term "average" with respect to the alkoxylation value. Although the patent identified a method for calculating ClogP, it did not provide any information on how to calculate said value for a blend. Therefore the skilled person was not able to know whether he was working within the scope of claim 1 (emphasis added by the board).

According to the case law, the relevant question was whether the patent provided sufficient information

which enabled the skilled person, when taking into account common general knowledge, to reproduce the invention. In the case at issue the insufficiency arose through ambiguity, due to a lack of information for the determination of the parameter, which was unusual for a blend of molecules.

Still according to the case law, for an insufficiency arising out of ambiguity, it was not enough to show that an ambiguity existed, e.g. at the edges of the claims. It was necessary to show that the ambiguity deprived the person skilled in the art of the promise of the invention.

Whilst ClogP was an essential and differentiating parameter in order to achieve the claimed technical effect, as shown by the examples in table 6 of the patent, the claimed effect was obtained only when using the surfactants having the claimed properties but there was no indication about the determination of ClogP in the patent in suit; the proprietors were also not able to explain the differences between the values in the examples of the patent and those calculated by the opponent. Therefore, the skilled person did not know which surfactant was to be selected to achieve the claimed effect.

2.3 The Board does not share these conclusions because the decisive question is whether the patent in suit discloses the claimed invention in a manner sufficiently clear and complete for it to be prepared and used by the person skilled in the art without undue burden across the whole claimed breadth (Articles 83/100(b) CBE).

2.4 The disclosure to be considered includes the whole explicit and implicit disclosure of the patent, for instance that of the documents/software specifically mentioned or referred to in the patent (e.g. in paragraph [0069]), and the common general knowledge (e.g. that acknowledged in paragraphs [0007] to [0009] and [0069] of the patent) related to antifreeze components of fabric treatment/conditioning compositions and to the calculation of the ClogP.

2.5 According to the case law of the Boards of Appeal of the EPO (9th edition, 2019, II.C.3.2), the requirement of sufficiency of disclosure relates to the invention defined in the claims, and in particular to the combination of structural and functional features of the claimed invention, and there is no legal basis for extending such a requirement also to encompass other technical aspects possibly associated with the invention (such as results to be achieved or technical effects) mentioned in the description but not required by the claimed subject-matter.

2.6 In the case at issue, the skilled person is an experienced formulator of fabric treatment compositions, which would not construe the expression "*antifreeze active*" as an isolated functional feature - as invoked by the respondent - but as a feature further defined and limited by the following two conditions:

2.6.1 (1) "*it is an alkoxylated non-ionic surfactant having an average alkoxylation value of from 4 to 22*".

The skilled person understands here that the claimed composition must comprise an unspecified amount of "*an alkoxylated non-ionic surfactant*"; these being generally known, as evidenced by D12. He further knows

that an alkoxylated non-ionic surfactant is not made up of a single oligomer or molecule, but of a blend of different oligomers, each having an alkoxylation value (a number of e.g. EO units), the "*average alkoxylation value*" of which can be calculated (see the number average degree of polymerisation of the alkoxyoxide in D12, point III, second paragraph), or is available from manufacturers, so that it can be established whether the average alkoxylation value of the oligomers in said surfactant complies with the "*average alkoxylation value of from 4 to 22*" defined in claim 1 at issue.

2.6.2 (2) the alkoxylated non-ionic surfactant has "*a ClogP of from 3 to 6*".

The skilled person knows (this was not in dispute at the oral proceedings before the Board) that the "ClogP" is an estimated partition coefficient for single molecules, so that this feature would be understood to further require that the estimated/calculated octanol/water partition coefficient of (at least one or some of) the oligomers of the alkoxylated nonionic surfactant as defined above lies within the range of 3 to 6, which implies that said surfactant must have a certain hydrophilic/hydrophobic balance.

2.6.3 The above comments do not exclude that component (c) may well be a commercially available alkoxylated non-ionic surfactant including oligomers fulfilling the defined requirements.

2.6.4 Similarly the skilled person would construe the feature "*to improve freeze recovery of the composition*" in claim 14 as a generic requirement, since it neither defines which freeze recovery was meant, nor over what reference it should be improved.

2.6.5 For the Board, it follows that the composition of claim 1 at issue does **not** require the achievement of a specific technical effect/improvement, the functional feature "*antifreeze active*" in claim 1 being entirely generic and further defined by concrete technical features. Likewise, the feature "*to improve freeze recovery*" in claim 14 is generic and it does not define over which reference "*freeze recovery*" should be improved.

2.6.6 Consequently, in line with e.g. G 1/03 (OJ 2004, 413, reasons 2.5.2, seventh and eighth sentences), and the relevant case law of the Boards of Appeal of the EPO (9th edition, 2019, II.C.3.2), according to which "an objection of insufficiency cannot legitimately be based on an argument that the patent does not enable a skilled person to achieve a technical effect which is not defined in the claim", there cannot be any insufficiency of disclosure in relation to alleged "promises of the invention", because no such promises are required to be fulfilled by claim 1 at issue.

2.6.7 It is therefore apparent from the foregoing construction that the finding of the opposition division, that it was not clear whether the ClogP parameter characterises a blend or a single molecule of the akoxylated non-ionic surfactant, cannot hold.

2.6.8 Moreover, it was common ground in these appeal proceedings, as apparent from the grounds of appeal, page 9, first sentence, that ClogP is representative of a single molecule. This is confirmed by the conclusions of D17a, that *"... properties are difficult to measure experimentally, but the latter - i.e. the oil-water partition coefficient - can be estimated readily from the chemical structure of the surfactant."*, in so far

as it is not contested that also the partition coefficient ClogP is calculated from the chemical structure of the nonionic surfactant.

2.6.9 Of course, as ClogP is a known parameter for a single molecule, it is apparent that if a commercially available nonionic surfactant blend with a defined/ known average alkoxylation value(s) is used, there are "many potential ways to calculate the ClogP of a blend" (as put forward by the respondent), depending on the oligomer(s) chosen for the calculation, i.e. on the particular carbon chain length considered.

In this respect, the Board wishes to make clear that as no general method of selection of the carbon chain length, let alone of any average thereof, is mentioned in the patent in suit, the particular calculation shown in D17 cannot supplement the original disclosure of the patent for the purpose of Article 83 EPC, but merely give evidence of how the values indicated in (some of) the examples of the patent have been calculated.

For instance in the case of claim 1 at issue, the calculation of ClogP according to D17 (point 10) for a nonionic surfactant with a range of carbon lengths may be based either on the most hydrophobic chain (with 14 carbon atoms in the alkyl chain) or on the least hydrophobic chain (12 carbon atoms in the alkyl chain) - as done in the experimental report D9 - and not necessarily on an oligomer with 13 carbon atoms (as the mean value between 12 and 14) in the alkyl chain.

This ambiguity, due to the lack of definition of the method of calculation of the claimed parameter, has not been shown to lead to an insufficiency, not even by following the rationale of T 1845/14 (reasons, 11.3)

that "*The ambiguous definition of a parameter in a claim may result in the scope of the claim to be broader than the patentee might have intended. In such a case the question arises whether the teaching of the patent in suit, which was directed to the claimed subject-matter having regard to a specific meaning of that parameter (which, however, was omitted), would nevertheless have enabled the skilled person to carry out the invention outside of the scope intended by the patentee, using common general knowledge and a reasonable amount of experimentation*."

D9 shows that, for the same commercial product used therein, whatever carbon length is taken (12 or 14) the condition defined in claim 1 is met.

2.6.10 It might also well be that a calculated ClogP value for a nonionic surfactant, despite fulfilling the carbon chain length and the EO units number disclosed in e.g. paragraph [0073] of the patent, does not fall within the claimed range. As a case in point, the respondent invoked the surfactant Myrj S8 illustrated in Table 6 of the patent (C_{18}, 8EO) which ClogP value is 6.65, and which thus falls outside the claimed range.

The Board does not see an insufficiency of disclosure of the invention here, seen that claim 1 does not set any limit for the carbon length of the nonionic surfactant, the limits of which are thus only dictated by or implied from the ClogP value defined in combination with the defined EO length in claim 1.

Moreover, the skilled formulator is aware (e.g. from D12, point IV.A, second paragraph) that alkoxylated nonionic surfactants "consist of a mixture of polyoxyethylene alcohol oligomers" having a typical

product distribution, whereby the carbon chain length makes the hydrophobic part whilst the EO chain length makes the hydrophilic part of the non-ionic surfactant molecule. In other words, the skilled person generally knows that the hydrophobic/hydrophilic balance, and so the ClogP value of an oligomer thereof, can be adapted by changing the length of the carbon or of the EO chain.

Hence, in the above-mentioned case of Myrj S8, the skilled person using common general knowledge gathers that this is because Myrj S8 has a relatively long (C_{18}) carbon chain and a small (8EO) EO chain length (with respect to the limit of C_{22} and the 15 EO units given in paragraph [0073] of the patent).

Thus, the skilled person using common general knowledge is not lost but able to overcome this slight (6.65 > 6) ClogP failure by e.g. using nonionic surfactants comprising oligomers of shorter carbon length and/or of longer EO chain, without undue burden, to prepare the claimed composition.

2.6.11 The respondent also objected that, since no particular version of the Daylight software is mentioned in paragraph [0069] of the patent, the use of different versions of this software might lead to different values for the ClogP, and so to an ambiguity of the definition and a lack of clarity at the edges of the claimed ClogP range.

2.6.12 This allegation has not been proven by the respondent, even in its report D9, nor has it shown that undue burden is required. Instead, it was common ground at the oral proceedings that ClogP is a known partition

coefficient and that the Daylight software was known for its calculation for single molecules.

In any case, for the Board, the objection that one or some of the many potentially calculable ClogP values can lie inside or outside the claimed range does not concern sufficiency of disclosure (especially if the very same blend is being used in the formulation) but an ambiguity of the definition, which falls under Article 84 EPC, which is not a ground of opposition.

In this respect, the position taken by the Board is in accordance with established case law (*supra*, II.C.8.2), according to which "there is now a clearly predominant opinion among the boards that the definition of the *forbidden area* of a claim should not be considered as a matter related to Articles 83 and 100(b) EPC".

2.6.13 It follows from the above considerations that the skilled person can carry out without undue burden the claimed invention, in so far as it can be prepared with

(1) one or more of the commercially available nonionic surfactants mentioned in paragraph [0075] of the patent, which thus implicitly fulfil the defined ClogP requirement, or

(2) other commercially available nonionic surfactants (e.g. those chosen among the classes dealt with in paragraphs [0071] to [0073] of the patent) upon verification that the ClogP value of one or some oligomers thereof falls within the defined range, with the calculation of ClogP being carried out from the carbon length(s) and average EO numbers within the ranges disclosed in paragraph [0073] or as made

available from the manufacturers of the nonionic surfactants,

and the composition so prepared can then be used and checked for its freeze recovery properties.

2.6.14 This finding is plainly confirmed by the comparative data D9 (first page, second paragraph and table) filed by the respondent, wherein compositions as claimed were prepared upon calculation of two values for the ClogP of the fatty (ethoxylated) alcohol used, one being calculated for the shortest carbon length, based on available data, the other for the longest, and both values of the so calculated ClogP falling within the range defined in claim 1 at issue. Thus, the respondent itself has shown that the claimed composition can be prepared and tested, and so that the claimed invention can be carried out without undue burden.

Already for these reasons the Board is not convinced that the characterisation of a nonionic surfactant by the ClogP value of (at least) one or some of its relevant oligomers is unusual nor that it leads to an insufficiency of the disclosure, even if there were an ambiguity on how to precisely calculate it.

2.7 It follows that the ground of opposition under Article 100(b) EPC does not prejudice the maintenance of the patent as granted.

3. Remittal

Under Article 11 RPBA 2020 the Board may remit the case to the department whose decision was appealed if there are special reasons for doing so.

In the present case, substantive issues (such as novelty and inventive step) raised in opposition proceedings were not dealt with in the decision under appeal, nor did the parties provide submissions on these issues in the appeal proceedings. Under these circumstances, the Board may not decide on these issues without contravening the requirements of Article 113(1) EPC. Thus a special reason exists for remittal of the case.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

A. Pinna J.-M. Schwaller

Decision electronically authenticated