

Internal distribution code:

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

**Datasheet for the decision
of 3 May 2012**

Case Number: T 0247/10 - 3.3.06

Application Number: 03447018.7

Publication Number: 1445302

IPC: C11D 1/66

Language of the proceedings: EN

Title of invention:
Detergent compositions

Patentee:
ECOVER N.V.

Opponents:
SOCIETE D'EXPLOITATION DE PRODUITS POUR LES
INDUSTRIES CHIMIQUES, S.E.P.P.I.C.
The Procter & Gamble Company

Headword:
Glycolipid biosurfactants/ECOVER

Relevant legal provisions:
EPC Art. 56
RPBA Art. 13(3)

Keyword:
"Admissibility of main request and first auxiliary request
(yes)"
"Inventive step (no) - obvious to try"

Decisions cited:
-

Catchword:
-



Case Number: T 0247/10 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 3 May 2012

Appellant: The Procter & Gamble Company
(Opponent 2) One Procter & Gamble Plaza
Cincinnati, OHIO 45202 (US)

Representative: Samuels, Lucy Alice
Gill Jennings & Every LLP
The Broadgate Tower
20 Primrose Street
London
EC2A 2ES (GB)

Respondent: ECOVER N.V.
(Patent Proprietor) Schottegatweg Oost 18
Curaçao (NA)

Representative: Brants, Johan P.E.
Brantsandpatents
Guldensporenpark 75
B-9820 Merelbeke (BE)

Party as of right: SOCIETE D'EXPLOITATION DE PRODUITS POUR LES
(Opponent 1) INDUSTRIES CHIMIQUES, S.E.P.P.I.C.
75, quai d'Orsay
F-75004 Paris (FR)

Representative: Conan, Philippe Claude
L'Air Liquide
D.S.P.I.
75, quai d'Orsay
F-75321 Paris Cedex 07 (FR)

Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted
23 November 2009 concerning maintenance of
European patent No. 1445302 in amended form.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
J. Geschwind

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to maintain the European patent no. 1 445 302, concerning a detergent composition, in amended form.

II. In their notices of opposition the two Opponents sought the revocation of the patent on the grounds of Articles 100(a) EPC, because of lack of novelty and inventive step of the claimed subject-matter, and of Articles 100(b) and (c) EPC.

The following documents were cited *inter alia* in support of the oppositions:

(1): EP-A-499434 and

(4): DE-A-19600743.

III. The Opposition Division found in its decision that the amended claims according to the second auxiliary request submitted during oral proceedings complied with all the requirements of the EPC.

In particular, as regards inventive step, it found that it would not have been obvious for the skilled person to combine the disclosure of document (1) with the teaching of document (4) in order to arrive at the claimed subject-matter.

IV. An appeal was filed against this decision by Opponent 02 (Appellant).

In the statement of the grounds of appeal the Appellant cited for the first time document (11): US-B-6262038.

With the letter of 27 April 2012 the Respondent (Patent Proprietor) submitted as main request a set of claims corresponding to those found by the Opposition Division to comply with the requirements of the EPC, and additional sets of claims according to the first to fifth auxiliary requests.

Oral proceedings were held before the Board on 3 May 2012.

V. The independent claim 1 according to the **main request** reads as follows:

"1. A hard surface cleaning detergent composition comprising at least one glycolipid biosurfactant and at least one non-glycolipid surfactant, characterized in that the at least one glycolipid biosurfactant and the at least one non-glycolipid surfactant are in the micellar phase, in that the amount of the glycolipid micellar phase biosurfactant is within the range of 0.05 - 5.0 % by weight with respect to the total weight of the composition and in that the amount of the glycolipid micellar phase biosurfactant and non-glycolipid micellar phase surfactant together is from 0.3 - 30 % by weight with respect to the total weight of the composition."

Claim 1 according to the first auxiliary request differs from claim 1 according to the main request only insofar as it contains the additional wording "a detergent composition which comprises" between "A hard

surface detergent composition comprising" and "at least one glycolipid biosurfactant...".

VI. The Appellant submitted *inter alia* that

- the late filed requests of 27 April 2012 were not admissible;

- claim 1 according to the main request and the first auxiliary request lacked an inventive step over document (4).

In particular, as regards inventive step, the Appellant submitted that document (4) disclosed a hard surface cleaning detergent composition comprising a combination of surfactants, which correspond to the micellar phase surfactants used in the patent in suit; this composition would differ from the claimed subject-matter only insofar as these surfactants were not necessarily contained in the specific concentrations of claim 1 and were not necessarily present in the micellar phase in the disclosed composition.

In the Appellant's view, the patent in suit would not make credible that any combination of surfactants encompassed by claim 1 would bring about an initial flash foaming and subsequent foam breaking, as shown in some of the examples of the patent with respect to compositions containing sophorolipids; moreover, it had not been credibly shown any technical advantage due to the technical features distinguishing the claimed subject-matter from the disclosure of document (4).

Therefore, the Appellant found that, starting from the disclosure of document (4), the technical problem underlying the invention consisted only in the provision of an alternative hard surface cleaning detergent composition; in this respect, it would have been obvious for the skilled person to use the combination of surfactants disclosed in document (4) in concentrations as required in claim 1 according to the Respondent's requests and to formulate the composition in such a way that the surfactants be in any desired phase, e.g. a micellar one.

VII. The Respondent submitted that the late filed requests were admissible since the main request corresponded to the claims maintained by the Opposition Division, the first auxiliary request contained the amended claim 1 already submitted with the letter of 19 August 2010 and 3 April 2012 and was a reply to the Appellant's submissions; moreover, the other auxiliary requests had been filed as a reply to the Appellant's submissions of 30 March 2012 and, in particular, as a precautionary measure in case document (11) would be admitted into the proceedings.

As regards inventive step, the Respondent submitted that document (4) did not contain any disclosure that the used surfactants would be micellar phase surfactants or would be in the micellar phase; moreover, this document concerned the production of a synergistic foaming effect for manual dishwashing and would not suggest that a hard surface cleaning detergent composition as claimed would be able to provide initial flash foaming as well as subsequent foam breaking.

Therefore, the claimed subject-matter involved an inventive step over the cited prior art.

VIII. The Appellant requests that the decision under appeal be set aside and the patent be revoked.

IX. The Respondent requests that the patent be maintained on the basis of the main request, submitted with letter of 27 April 2012, or, in the alternative, on the basis of any of the first to fifth auxiliary requests submitted with the same letter.

Reasons for the Decision

1. Admissibility of Respondent's requests

1.1 The Respondent submitted with a fax sent in the evening of Friday, 27 April 2012, six sets of claims to be considered as main request and first to fifth auxiliary requests, respectively.

These requests thus were submitted at a very late stage shortly before the oral proceedings held on 3 May 2012.

According to Article 13(3) RPBA, amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the other party or parties cannot reasonably be expected to deal with without adjournment of the oral proceedings.

1.2 As regards the Respondent's main request, it consists of the set of claims found by the Opposition Division

to comply with the requirements of the EPC with the exception of the correction of some clerical errors which were contained in the claims already submitted with the letter of 3 April 2012 and/or in the claims maintained by the Opposition Division; moreover, the Respondent had already manifested throughout the written appeal proceedings that the claims maintained by the Opposition Division constituted its main request.

As regards the Respondent's first auxiliary request, it is identical to that submitted with the letter of 3 April 2012 apart the same correction of clerical errors mentioned above and is based on the amended claim 1, submitted with the Respondent's letter of 19 August 2010 as a reply to the statement of the grounds of appeal.

Therefore, these two requests did not raise any issues which the Board or the other party could not reasonably have been expected to deal with during oral proceedings and are admissible.

- 1.3 As regards the claims according to the second to fifth auxiliary requests, they do not correspond to any set of claims submitted previously in writing. Moreover, the Respondent did not give in its letter of 27 April 2012 any explanation why these requests were submitted at such a late stage of the proceedings, which objections were intended to be overcome by the amendments carried out in these claims and how these amended claims would overcome all the objections raised by the Appellant.

It was only during oral proceedings that the Respondent explained that these auxiliary requests had been filed as a reply to the Appellant's submissions and, in particular, as a precautionary measure in case document (11) would be admitted into the proceedings.

The Board remarks that the Appellant's arguments based on document (11) had been already submitted with a letter dated 6 April 2010, i.e. more than two years before the filing of these auxiliary requests. Therefore, their filing, even as a precautionary measure against the admission of document (11) into the proceedings, at such a late stage of the proceedings shortly before oral proceedings does not find any justification.

Moreover, in the absence of any explanation in the letter of 27 April 2012, the Appellant and the Board were completely at a loss to understand any possible implication of these very late filed requests with respect to the objections raised in writing. Therefore, even though some additional arguments against the first auxiliary request had been submitted by the Appellant with the letter of 30 March 2012, the filing of additional requests by the Respondent a few days before oral proceedings and without any explanation does not find either justification.

The Board thus finds that it would contravene the principle of equal treatment of the parties to admit such requests at this very late stage of the proceedings without adjourning oral proceedings and giving the other party sufficient time for preparing its case.

Therefore, the second to fifth auxiliary requests are not admissible.

2. Respondent's main request

2.1 *Inventive step*

2.1.1 The invention of claim 1 relates to a hard surface cleaning detergent composition comprising at least one micellar phase glycolipid biosurfactant and at least one micellar phase non-glycolipid surfactant.

As explained in the patent in suit (paragraph 4), micellar and lamellar phase surfactants may be distinguished by the behaviour of their 1% by weight aqueous solutions in demineralised water at pH 7.0 and 25°C. Therefore, it is clear from the patent in suit that the micellar phase surfactants according to claim 1 identify surfactants able to form a clear micellar phase at the concentration of 1% by weight in demineralised water at pH 7.0 and 25°C.

The description of the patent in suit explains that it was already known to use advantageously glycolipid biosurfactants in detergents, since they can be derived from renewable raw materials and are likely to be biodegradable after use (paragraph 2).

The technical problem underlying the invention thus is formulated in the patent in suit as the provision of an alternative detergent composition, which can be used as hard surface cleaner (paragraph 9). In particular, the combination of at least one glycolipid biosurfactant

which is in the micellar phase and at least one non-glycolipid surfactant which is also in the micellar phase was found to bring about a synergistic enhancement of the detergency. Moreover it had been observed that the foaming of the detergent compositions of the present invention can be controlled and kept low, rendering the detergent compositions suitable as hard surface cleaners. In addition to this, their aquatic toxicity is low and their renewability is complete (paragraph 11).

Moreover, in the present invention, the need to use lamellar non-glycolipid surfactants like the ethoxylated nonionics, which can cause undesired stress cracking on polycarbonate and other plastic surfaces, can be dispensed with (paragraph 12).

2.1.2 Both parties considered document (4) to represent the closest prior art.

In fact, document (4) relates to the provision of a detergent composition for manual dishwashing, i.e. a hard surface cleaning detergent composition, based on glycolipid biosurfactants and non-glycolipid surfactants, having improved cleaning performance and foaming power and being mild to the skin, which composition does not require the presence of lamellar surfactants like the ethoxylated nonionics (see page 2, lines 25 to 41).

This document is certainly more suitable than document (1) as starting point for the evaluation of inventive step, since document (1), though relating also to a composition which can be used as hard surface cleaner and being based on glycolipid biosurfactants and non-

glycolipid surfactants, is concerned only with the enhancement of detergency (see page 2, lines 32 to 34) and comprises preferably a lamellar phase ethoxylated nonionic surfactant (see examples of document (1), paragraph 3 of the patent in suit and page 2, lines 18 to 20 of document (4)).

The Board thus takes also document (4) as the most suitable starting point for the evaluation of inventive step.

- 2.1.3 It is undisputed that the hard surface cleaning detergent compositions of document (4) already show a synergistic enhancement of the detergency (see page 2, line 40), do not need the use of lamellar phase ethoxylated nonionics, and, being based on glycolipid biosurfactants, have low aquatic toxicity and are based on renewable products as the compositions of the patent in suit. Therefore, these parts of the technical problem identified in the patent in suit had been already solved by means of the compositions of document (4).

In order to formulate the technical problem underlying the invention in the light of the disclosure of document (4), it thus remains to be evaluated if it is credible that the claimed compositions have a foaming behaviour which is different from that of the compositions of document (4), i.e. that they show an initial flash foaming and a subsequent foam breaking as submitted by the Respondent, or that they provide a better control of the foam formation and low foaming whilst the compositions of document (4) provide strong

foaming (see paragraphs 11 and 17 of the patent in suit).

Part B of the tests contained in the patent in suit, concerning detergent compositions comprising a sophorolipid as glycolipid biosurfactant, are the only tests of the patent comparing the foaming behaviour of certain compositions, in particular the foaming behaviour of a non-glycolipid surfactant versus that of its combination with a sophorolipid biosurfactant.

Said tests show that diluted solutions of sophorolipids, which are micellar phase glycolipid surfactants according to claim 1, in combination with micellar phase non-glycolipid surfactants such as sodium lauryl sulphate and alkyl polyglycosides, have the ability of quickly and completely breaking foam and that the higher the amount of sophorolipids, the more quickly and completely the height of the generated foam is reduced (see in particular, page 12, lines 50 to 52 and page 13, lines 43 to 45). These results are in accordance with the teaching of the description of the patent in suit with regard to sophorolipids (see paragraphs 15 and 18).

As regards the other glycolipid biosurfactants encompassed by the wording of claim 1, the patent in suit does not mention if they are also able to provide such an effect and only specifies that they contribute to keep the foam so low that the resulting composition can be used as hard surface cleaner (see paragraphs 11 and 16). The Respondent confirmed at the oral proceedings that the other glycolipid biosurfactants

show a less marked effect with respect to initial flash foaming and subsequent foam breaking than sophorolipids.

Considering that claim 1 encompasses compositions containing a very low amount of glycolipid biosurfactant with respect to the non-glycolipid one (e.g. 0.05% by weight of the biosurfactant and 29% by weight of the other one) and is not restricted to the use of sophorolipids, the Board can only conclude that the specific effect of initial flash foaming and subsequent foam breaking, which is disclosed in the description of the patent in suit only in relation to sophorolipids, cannot be considered to having been made credible for all the compositions encompassed by claim 1.

As regards the alleged better control of the foam formation and low foaming, which would allow the use of the claimed compositions as hard surface cleaners, the patent in suit states in paragraph 17 that the alleged low foaming required for hard surface cleaners would be in contrast with the strong foaming shown by the compositions of document (4).

However, the Board remarks that the manual dishwashing compositions of document (4), which certainly provide at least initially strong foaming, are also hard surface cleaning detergent compositions; therefore, the foam level and foam control obtained by using the compositions of document (4) are suitable for hard surface cleaning and cannot be different from the foam level and foam control considered suitable for hard surface cleaning in the patent in suit.

Furthermore, the tests of the patent in suit do not contain any comparison with respect to the compositions of document (4), which already comprise both a glycolipid biosurfactant and a non-glycolipid surfactant (see page 2, lines 31 to 41 and claim 1 of document (4)). Hence, the patent in suit does not convincingly show that a different foaming behaviour would result from the distinctive features of claim 1.

Therefore, in the light of the disclosure of document (4), the technical problem underlying the invention can only be formulated as the provision of an alternative detergent composition suitable as hard surface cleaner.

The Board has no doubt that this technical problem has been solved by means of the compositions claimed according to claim 1.

- 2.1.4 Document (4) discloses in example 2 of table 1 a composition comprising a sophorolipid of formula (IIIa) and a sodium lauryl sulphate.

Sodium lauryl sulphate is listed as micellar phase surfactant, i.e. a surfactant which at 1% by weight in demineralised water at pH 7.0 and 25°C is in the micellar phase and provides a clear solution, in paragraph 27 of the patent in suit and it is used as micellar phase non-glycolipid surfactant in the tests of part B mentioned above. Therefore, the sodium lauryl sulphate used in said example 2 of document (4) is a micellar phase non-glycolipid surfactant according to claim 1.

As regards the sophorolipid of formula (IIIa), it falls under the structural formula (I) of the suitable micellar phase glycolipid biosurfactants of the patent in suit. Therefore, it is clear that this surfactant is a micellar phase glycolipid biosurfactant according to claim 1.

The composition of said example 2 of document (4) is submitted to a Ross-Miles test for determining its foaming capacity at a concentration of 0.5 or 0.4 g/l (page 5, lines 33 to 35); however, it is not clear if the tested composition contains other components apart from the surfactants. Therefore, the exact concentration of both surfactants in the tested diluted composition is not unambiguously derivable from this example. Moreover, the description is silent about the phase in which the surfactants exist in the tested composition.

This disclosure of document (4) thus differs from the subject-matter of claim 1 only insofar as it does not specify concentrations of the micellar phase glycolipid biosurfactant and of the combination of micellar phase glycolipid biosurfactant and non-glycolipid surfactant as in claim 1 and it does not disclose that both surfactants are in the micellar phase in the disclosed composition.

- 2.1.5 Document (4) teaches explicitly that the glycolipid biosurfactant and the non-glycolipid surfactant should be used at a weight ratio of 10:90 to 90:10, preferably 25:75 to 75:25, and that their total concentration in the concentrated composition should be of 5 to 50% by

weight, preferably 10 to 25% by weight (see page 4, last line to page 5, line 1 and page 5, lines 8 to 9).

Therefore, by considering, for example, the preferred total concentration of 10% by weight, which falls within the extent of claim 1, it would have been obvious for the skilled person to try combinations of these surfactants within the disclosed preferred weight ratios, e.g. at a ratio of 25:75, i.e. combinations of 2.5% by weight of the micellar phase glycolipid biosurfactant with 7.5% by weight of the micellar phase non-glycolipid surfactant, i.e. concentrations with the extent of claim 1.

As regards the characteristic that both surfactants must be in the micellar phase in the composition, it is uncontested that it was known to the skilled person that such surfactants can exist in solution in different states, e.g. monomeric, micellar or lamellar, depending on the concentrations used, on the other components present and on the temperature of the composition.

It is also uncontested that the skilled person would have been able to prepare a composition with the surfactants in the micellar phase if desired. Therefore, it would have been obvious for the skilled person, on the basis of its knowledge, to prepare the composition of document (4) in such a way that the surfactants are present in the desired phase, e.g. a micellar phase.

Consequently, the selection of this distinguishing feature, which has not been made credible to bring

about by itself any technical advantage, would have been also an obvious alternative for the skilled person.

The Board thus concludes that the subject-matter of claim 1 according to the main request lacks an inventive step.

3. Respondent's first auxiliary request

Claim 1 according to the first auxiliary request differs from claim 1 according to the main request only insofar as it contains the additional wording "a detergent composition which comprises" between "A hard surface detergent composition comprising" and "at least one glycolipid biosurfactant...".

As admitted by the Respondent during oral proceedings, this modification has no influence on the inventive step of the claimed subject-matter and had been introduced only in order to overcome, if necessary, the Article 123(2) objections raised by the Appellant.

Therefore, the arguments on inventive step submitted hereinabove with respect to the main request apply *mutatis mutandis* to claim 1 of the first auxiliary request.

Consequently, claim 1 of this request also lacks an inventive step.

4. Since the Respondent's main and first auxiliary requests fail on these grounds there is no need to discuss all the other issues against patentability raised by the Appellant.

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:

D. Magliano

P.-P. Bracke