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**D E C I S I O N**  
of 17 March 2003

**Case Number:** T 0864/98 - 3.3.6

**Application Number:** 91918093.5

**Publication Number:** 0550636

**IPC:** C11D 17/00

**Language of the proceedings:** EN

**Title of invention:**  
Liquid detergent compositions

**Patentee:**  
THE PROCTER & GAMBLE COMPANY

**Opponent:**  
Cognis Deutschland GmbH & Co. KG

**Headword:**  
Liquid detergents/PROCTER & GAMBLE

**Relevant legal provisions:**  
EPC Art. 54

**Keyword:**  
"Novelty (yes) - End value of a range defining the possible amount of a component has not been implicitly disclosed in combination with the specific compositions in the examples"

**Decisions cited:**  
G 0004/88, T 0565/97, T 0014/97, T 0124/87

**Catchword:**  
-



Case Number: T 0864/98 - 3.3.6

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.6  
of 17 March 2003

**Appellant:** Cognis Deutschland GmbH & Co. KG  
(Opponent) Postfach 130164  
D-40551 Düsseldorf (DE)

**Representative:** -

**Respondent:** THE PROCTER & GAMBLE COMPANY  
(Proprietor of the patent) One Procter & Gamble Plaza  
Cincinnati,  
Ohio 45202 (US)

**Representative:** Engisch, Gautier  
Procter & Gamble  
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B-1853 Strombeek-Bever (BE)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 4 August 1998  
rejecting the opposition filed against European  
patent No. 0 550 636 pursuant to Article 102(2)  
EPC.

**Composition of the Board:**

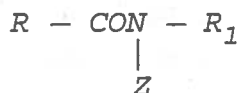
**Chairman:** P. Krasa  
**Members:** P. Ammendola  
M. B. Tardo-Dino

**Summary of Facts and Submissions**

I. This appeal is from the decision of the Opposition Division rejecting the opposition filed against the European patent No. 0 550 636 and maintaining the patent as granted on the basis of 15 claims, the independent claim 1 reading as follows:

"1. An unbuilt liquid or gel-form detergent composition in the form of a physically stable aqueous solution comprising from 20% to 50% by weight of the composition of a core surfactant mixture, comprising by weight of the mixture,

- a) from 5% to 95% of at least one water-soluble anionic sulphate or sulphonate surfactant salt;
- b) from 95% to 5% by weight of the mixture of one or more compounds having the general formula



wherein Z is a polyhydroxy hydrocarbyl moiety having a linear hydrocarbon chain with at least three hydroxy groups connected directly to the chain, said moiety being derived from glucose and mixtures thereof with maltose, the maltose comprising not more than 33% by weight of the mixture, R is a saturated or unsaturated alkyl group of from 8 to 16 carbon atoms or a mixture of such groups and R<sub>1</sub> is a C<sub>1</sub>-C<sub>4</sub> alkyl or C<sub>2</sub>-C<sub>4</sub> hydroxyalkyl group;

whereby a 0.12% by weight aqueous solution of the surfactant mixture of said composition, in water of 2° Clark mineral hardness (Ca:Mg ratio of 3 : 1) and temperature of 48°C, has

- i) a spinning drop interfacial tension (IFT) of less than 0.2 Pa cm using a triolein soil of 99.7% purity;
- ii) a greasy soil removal value in the Polypropylene Cup (PPC) Test of greater than 1.3 x the value obtained in the same test under the same conditions using a 0.12% solution of the anionic surfactant component(s) alone."

Dependent claims 2 to 15 related to particular embodiments of the claimed composition.

- II. Henkel KGaA filed a notice of opposition, based on lack of novelty, lack of inventive step and insufficiency of disclosure, citing *inter alia* the following document:

Document (1): EP-A-0 283 768.

- III. In its decision, the Opposition Division held that the subject-matter of claim 1 was sufficiently disclosed, novel and based on an inventive step. In particular, Document (1) was found not to disclose unambiguously an aqueous liquid detergent composition containing 20 to 50 wt.% of a surfactant mixture which comprised a sulphate and/or sulphonate surfactant (hereafter "SUS") and a polyhydroxy alkyl fatty acid amide (hereafter "PHFA").

- IV. The Appellant who appealed against the decision was the original Opponent: i.e. Henkel KGaA.

The Board was then informed on 13 August 1999 that Henkel KGaA had transferred its entire chemical business to Cognis Deutschland GmbH. A copy of the relevant parts of the agreement between Henkel KGaA and Cognis Deutschland GmbH was filed.

The Board was further informed with a letter dated 30 October 2002 that the entire chemical business of Cognis Deutschland GmbH was transferred to Cognis Deutschland GmbH & Co. KG. A copy of a notarial certificate with the details of such transfer was also filed.

The Respondent (Patent Proprietor) received copies of these letters and documents.

V. Both Appellant and Respondent initially made a conditional request for oral proceedings before the Board. In the letter dated 30 October 2002 the Appellant informed the Board that it would not take part to the oral proceedings scheduled for 14 November 2002 and requested a decision according to the state of the file. The Board cancelled the oral proceedings.

VI. In the appeal proceedings the Appellant addressed exclusively the question of novelty.

It argued that Examples III and IIIa in Table 1 of Document (1) had all the relevant features defined in claim 1 of the disputed patent with the exception that the combined amounts of SUS and PHFA were lower than 20% by weight of the composition.

However Document (1) also disclosed at page 2, lines 49 to 51, that the amount of glucamide (i.e. the compound encompassed in the definition of the PHFA given in claim 1 of the patent in suit) might range from 0.5 to 30% by weight "*bezogen auf das gesamte flüssige Tensidsystem*" (i.e. referred to the total liquid surfactant system).

The Appellant maintained that the Opposition Division had erroneously considered unclear the expression "*gesamte flüssige Tensidsystem*" and relevant the fact

that in this document the glucamide is not considered a surfactant but a thickening agent, while it was evident that the above expression could only refer to percentages of the overall weight of the fluid, finished detergent product of Document (1).

Therefore it concluded that according to the "whole content approach" used in the decision of the Board of Appeal T 124/87 (OJ EPO 1989, 491) the disclosure in the above identified portions of Document (1) would destroy the novelty of the subject-matter of claim 1 of the patent in suit.

VII. The Respondent refuted this reasoning by relying on the argumentation given by the Opposition Decision and maintaining, *inter alia*, that:

- (a) Document (1) specifically disclosed that the amount of PHFA is preferably not more than 10% by weight (see page 2, line 50) and
- (b) in the examples of this document the PHFA was added as a thickening agent and it was implausible to use in Examples III and IIIa of this document an amount of expensive thickening agent which would be more than twice the amount of the anionic surfactant.

VIII. The Appellants requested that the decision under appeal be set aside and the patent be revoked.

The Respondent requested that the appeal be dismissed and the patent maintained as granted. In case this request could not be allowed it requested oral proceedings.

## Reasons for the Decision

### 1. *Identity of the Appellant/Opponent*

In view of the documents submitted by the Appellant (cf. point IV above), the Board is satisfied that the present opposition was validly transferred to Cognis Deutschland GmbH & Co. KG see also T 565/97 of 12 June 2001, not published in the OJ EPO, point VI of the facts and submissions and point 2 of the reasons for the decision). The Appellant is therefore Cognis Deutschland GmbH & Co. KG.

This finding was not contested by the Respondent.

### 2. *Novelty of the subject-matter of claim 1 (Article 54 EPC)*

2.1 The Appellant contested the novelty of the subject-matter of claim 1 of the patent in suit exclusively on the basis of the disclosure of Document (1).

2.2 *The meaning of "bezogen auf das gesamte flüssige Tensidsystem" in Document (1)*

2.2.1 The Opposition Division considered that it was not fully clear if the wording "*das gesamte flüssige Tensidsystem*" in claim 3 and in the description of Document (1) encompassed only the liquid surfactants or also the water solution of the solid ones, and/or whether or not it encompassed PHFA, also because in this document this component was considered exclusively as a thickening agent even though it had the typical functions of a surfactant.

- 2.2.2 The Respondent did not provide in its reply to the grounds of appeal any comment as to the interpretation of this expression of Document (1). However, the Respondent stated in general that it relied on the argumentation given by the Opposition Decision, which of course includes the interpretation of Document (1) as given above at point 2.2.1.
- 2.2.3 The Board finds that several different wordings, including "*flüssiges Tensidsystem*" and "*flüssige wässrige Tensidsysteme*", have been used at page 2 of Document (1) to indicate finished, ready-to-use, liquid detergent compositions such as hair shampoos or liquid dish washing compositions (see page 2, lines 1 to 29).

On the other hand, while claim 1 of Document (1) defines the use of PHFA as thickening agent for "*flüssige wässrige Tensidsysteme*", claim 3 (which is dependent on claim 1) defines instead the PHFA amount range with respect to the "gesamtes *flüssiges Tensidsystem*" (emphasis added by the Board). The only reasonable interpretation of these different expressions is that the latter refers to a combination of matter differing from that defined by the former one exclusively in the additional presence of the PHFA: i.e. the "gesamtes" (i.e. total) liquid surfactant system of claim 3 can only identify the ready-to-use fluid aqueous detergent composition resulting from the use of claim 1 and, therefore, further comprising PHFA.

Thus, the Board concludes that - as correctly maintained by the Appellant - the PHFA amount range disclosed in claim 3 and in the description of Document (1) is referred to the total amount of complete final product: i.e. the weight of the detergent composition inclusive of water and of PHFA.



2.3 The end value "30 weight %" of the PHFA amount range defined in Document (1) is not disclosed in combination with Examples III and IIIa of the same document.

2.3.1 The Appellant maintained that in view of the decision T 124/87 and of the known "whole content approach" the disclosure in general of the range 0.5 to 30 weight% for the PHFA component in Document (1) may be combined with that of the hair shampoos in Examples III or IIIa in the same document and, in particular, that this would amount to the disclosure of the possibility of using in the compositions in these examples an amount of PHFA of 30 weight%.

In the absence of any explicit teaching in Document (1) to use an amount of 30 weight% of PHFA in the hair shampoos of these examples, it is self-evident that this reasoning implies the **general applicability** of the PHFA amount range given in Document (1): i.e. that each specific value in that range was freely to be combined with any possible set of the other parameters of the composition claimed in this document and, therefore, also with the mixture of the remaining components used in the hair shampoos of Example III or IIIa, in their given relative amounts.

2.3.2 According to the established jurisprudence of the Boards of Appeal, a prior art disclosure is novelty destroying if it discloses directly and unambiguously the subject-matter in question (see Case Law of the Boards of Appeal of the EPO, 4th edition, December 2001, page 57, point 2.3).

It is also established case law of the Boards of Appeal that the technical teaching of a cited document is indeed not confined to the detailed information given in the examples, but embraces the disclosure of that document as a whole. This case law is the one of the decision of the Board of Appeal T 124/87 upon which the Appellant relied its argumentation.

- 2.3.3 In view of the above it is apparent that the application to the present case of this established jurisprudence boils down to assessing whether or not the whole disclosure of Document (1) taught to the person skilled in the art that the amounts of PHFA in the range 0.5 to 30 weight% were freely to be combined with any possible set of the other parameters for the composition.
- 2.3.4 Document (1) defines the PHFAs as thickening agents suitable for producing any kind of stable aqueous detergent compositions for body or dish washing. In particular, this document discloses that their use allowed to reach very different viscosities - ranging e.g. from those needed for low viscous hair shampoos to those required for highly viscous shower gels - independently on the nature of the other components of the detergent compositions (see claim 1 and page 2, lines 9 to 29).

However, Document (1) discloses also the use of PHFAs in addition to unlimited amounts of conventional thickening agents (compare claim 1 with page 2, line 52, and Table 1). This broad instruction clearly encompasses the addition of PHFA to conventional detergent compositions (even to those already containing large amounts of conventional thickening agents and of electrolytes and thus having a viscosity very close to the maximum) for further increasing their viscosity.

The possibility of adding the PHFA to already highly viscous compositions is clearly inconsistent with a general applicability of amounts of PHFA as high as 30 weight%, since it is to be expected that detergent compositions which are too viscous for any practical application are inevitably obtained when adding 30 weight% of PHFA to already highly viscous detergent compositions.

2.3.5 Moreover, Document (1):

- confirms the conventional practice of maximizing the effect of the thickening agent by adding inexpensive kitchen salt (see Figure 1),
- discloses the optional presence of further thickening agents (disclosed at page 2, line 52 and in the examples of Table I) and
- defines at page 2, line 50, an amount of 10 weight % - i.e. well below 30 weight% - as preferred maximum for the amount of PHFA.

These facts imply that certain organic thickening agents, such as the PHFA, are considered by the skilled person expensive additives which are expected to be used only in minor amounts.

Therefore, the Board considers convincing the Respondent's consideration that the person skilled in the art of thickening agents would regard the use of an amount of 30 wt% of PHFA in Examples III and IIIa of Document (1) as implausible, since this would lead to compositions in which the amount of expensive thickening agent is more than twice the amount of surfactant (13.3 wt%).

Also this consideration is clearly inconsistent with a general applicability of amounts of PHFA as high as 30 weight%.

2.3.6 Finally, the fact that Document (1) discloses that PHFA thickening agents allow to produce aqueous detergent compositions with viscosities ranging from those needed for low viscous hair shampoos to those required for highly viscous shower gels (see above 2.3.4), suggests that it is unreasonable to interpret the disclosure in general of the PHFA amount range "0.5 to 30 weight%" in Document (1) as if it implied that the maximum value of 30 weight% had been implicitly considered possibly applicable in **high** as well as in **low** viscosity compositions.

On the contrary, it seems reasonable to assume that the PHFA's amounts encompassed in the lower portion of the given amount range are more likely to be suitable for the low viscosity compositions, such as hair shampoos, while those encompassed in the upper portion of the general amount range - and, in particular, the value defining the upper end thereof - are more likely to be suitable for the highly viscous products e.g. shower gels.

2.3.7 Thus, it can be considered reasonably implied in Document (1) neither that the values encompassed in the general PHFA amount range are freely combinable with any of the specific detergent compositions disclosed in the same document, nor that in particular the maximum value of "30 weight%" has been unambiguously disclosed as possibly applicable also to low viscosity hair shampoos.

Therefore, in this document the end value "30 weight%" of the PHFA amount range is not clearly disclosed in combination with Examples III and IIIa.

2.4 The Board comes thus to the conclusion that the subject-matter of claim 1 is not unambiguously and directly disclosed in Document (1) and, thus, that this claim meets the requirements of Article 54(1) and (2) EPC.

3. *Novelty of the subject-matter of claims 2 to 15 (Article 54 EPC)*

These claims relate to specific embodiments of the composition defined in claim 1. Therefore, these claims also meet the requirements of Article 54 (1) and (2) EPC.

4. *Articles 56 and 83 EPC*

The Board sees no reason to deviate from the decision of the Opposition Division that the granted claims were in conformity with the requirements of Articles 56 and 83 EPC.

It is not necessary to give further details since no objections were raised by the Appellant in this regard during the appeal proceedings.

5. *Cancellation of the oral proceedings*

The present decision could be taken without holding oral proceedings, because the Appellant communicated to the Board that it would not attend the oral proceedings and asked for a decision on the file as it stands (see above, point V). Such a statement is equivalent to a withdrawal of the Appellant's earlier request for oral proceedings.

As the Appellant waived the right to be heard in oral proceedings and the Respondent requested oral proceedings only if the Board intended not to decide to dismiss the appeal and to maintain the patent as granted, the oral proceedings were duly cancelled by the Board (see also T 14/97 of 11 February 2000, point 4 of the reasons for the decision, not published in the OJ EPO).

**Order**

**For these reasons it is decided that:**

The appeal is dismissed

The Registrar:

The Chairman:

  
G. Rauh

  
P. Krasa