

Veröffentlichung im Amtsblatt	<input checked="" type="checkbox"/> Ja/Nein
Publication in the Official Journal	<input checked="" type="checkbox"/> Yes/No
Publication au Journal Officiel	<input checked="" type="checkbox"/> Oui/Non

Aktenzeichen / Case Number / N^o du recours : T 606/89 - 3.3.1

Anmeldenummer / Filing No / N^o de la demande : 84 200 050.7

Veröffentlichungs-Nr. / Publication No / N^o de la publication : 0 117 568

Bezeichnung der Erfindung: Particulate detergent composition

Title of invention:

Titre de l'invention :

Klassifikation / Classification / Classement : C11D 10/04

ENTSCHEIDUNG / DECISION

vom / of / du 18 September 1990

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /

Titulaire du brevet :

Unilever NV
Unilever PLC

Einsprechender / Opponent / Opposant : Henkel KGaA

Stichwort / Headword / Référence : Detergent composition/Unilever

EPÜ/EPC/CBE Article 56

Schlagwort / Keyword / Mot clé : "Inventive step (confirmed) - closest prior art"

Leitsatz / Headnote / Sommaire



Case Number : T 606/89 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 18 September 1990

Appellant : Henkel KGaA
(Opponent) Postfach 1100
Henkelstrasse 67
D-4000 Düsseldorf 1

Representative :

Respondents : Unilever NV
(Proprietors of the patent) Burgemeester s'Jacobplein
1 P.O. Box 760
NL-3000 DK Rotterdam

Unilever PLC
Unilever House
Blackfriars
P.O. Box 68
London EC4P 4BQ (GB)

Decision under appeal : Decision of the Opposition Division of the European
Patent Office of 4 July 1989, posted on
27 July 1989, rejecting the opposition filed against
European patent No. 0 117 568 pursuant to
Article 102(2) EPC.

Composition of the Board :

Chairman : K.J.A. Jahn
Members : R.W. Andrews
W. Moser

Summary of Facts and Submissions

I. The grant of European patent No. 0 117 568, in respect of European patent application No. 84 200 050.7 filed on 16 January 1984, was published on 15 October 1986 (cf. Bulletin 86/42). The patent was granted on the basis of seven claims, independent Claims 1 and 7 read as follows:

"1. Particulate detergent composition with improved stock solution behaviour on the basis of a mixture of soap and nonionic detergent active characterized in that the composition comprises:

(a) from 5 to 40% by weight of a detergent active system comprising:

(1) up to 75% by weight of water-soluble fatty acid soap component having a Krafft-temperature of from 0 to less than 30°C, and

(2) an alkoxyated alcohol nonionic component having an HLB-value of between 12 and 16;

(b) from 20 to 70% by weight of an alkaline buffering agent; and

(c) up to 40% by weight of a builder; the balance being minor ingredients and water.

7. Aqueous detergent composition characterised in that it is an aqueous 5 to 15% solution of a detergent composition according to any of the preceding claims".

II. A notice of opposition, filed on 9 July 1987, requested the revocation of the patent on the grounds that its subject-matter lacked novelty and did not involve an inventive step. The opposition was supported, inter alia, by the following documents:

(3) DE-C-2 360 020 and

(6) DE-A-2 121 565.

III. By a decision delivered orally on 4 July 1989, with written reasons posted on 27 July 1989, the Opposition Division rejected the opposition. The Opposition Division held that the claimed subject-matter was novel since the Krafft-temperature of the fatty acids contained in the particulate detergent composition disclosed in Example 2 of document (3) was not specified and it did not follow automatically that the soaps derived from coconut oil and palm kernal oil would have Krafft-temperatures below 30°C. Furthermore, the claimed subject-matter was not obvious in the light of this document, since it did not contain any suggestion to select fatty acid soaps having Krafft-temperatures below 30°C and was concerned with a technical problem different to the one underlying the disputed patent.

The Opposition Division also decided that the subject-matter of the patent in suit involved an inventive step in the light of document (6), because this document did not recognise the importance of the use of alkoxyated alcohols as the nonionic component and did not provide any reason for selecting soaps having Krafft-temperatures below 30°C.

IV. An appeal was filed against this decision on 18 September 1989 with payment of the prescribed fee. In the Statement of Grounds of Appeal, filed on 29 November 1989, the Appellant argued that the soaps used

in the compositions of the disputed patent were identical, both in respect of their composition as well as their physical properties, with those disclosed as suitable for use in the compositions disclosed in document (3). The Appellant contended that it was not important that, in addition to the soaps derived from coconut oil and palm kernal oil, tallow soaps were also mentioned in document (3), since a selection of two soap types from a total of three was in no way inventive. Particularly, since it is known that the soaps derived from coconut oil and palm kernal oil are easily soluble and less sensitive to electrolytes and, therefore, especially suitable for stock solutions which are known to have high concentrations of electrolytes.

According to the Appellant, the fact that the problem underlying the disputed patent is different from that of document (3) is of no importance as far as patent law is concerned.

- V. In their response, the Respondents maintained that document (3) only represented the closest prior art as far as novelty was concerned since this document dealt with an entirely different technical problem than the present patent. In the Respondent's opinion, the closest state of the art with regard to inventive step is document (6), since this seeks to solve the same technical problem as the present invention.

The Respondents also contended that since tallow soap, which was established by the Opposition Division as having a Krafft-temperature of above 30°C, would be the preferred source of soap for a skilled artisan, the present invention involved an inventive step.

VI. The Appellant requests that the decision under appeal be set aside and the patent revoked. The Respondents request that the appeal be dismissed.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.
2. It is the established jurisprudence of the Boards of Appeal that the objective assessment of inventive step has to be preceded by the determination of the technical problem which the invention addresses and solves and that the technical problem is to be formulated in the light of the closest state of the art.

Therefore, in order to apply this approach for objectively assessing inventive step, it is essential to establish the closest prior art. Generally, this requires that the claimed invention should be compared with the art concerned with a similar use which requires the minimum of structural and functional modifications. Thus, in the present case, this involves not only comparing the claimed compositions with those of the prior art, but also giving consideration to the particular properties which render the compositions suitable for the desired use.

- 2.1 The disputed patent relates to a particulate detergent composition comprising a water-soluble fatty acid soap, a nonionic surfactant, an alkaline buffering agent and a builder and an aqueous solution thereof. This aqueous solution, which contains 5 to 15% of the composition, is a so-called stock solution.

- 2.2 In contrast, document (3) is concerned with low-foaming detergent compositions comprising surfactants, organic and/or inorganic builders and water-insoluble addition products of polyglycerol and propylene oxide (cf. Claim 1). The fact that the foam depressant addition products are water-insoluble render the compositions unsuitable for the preparation of stock solutions which do not exhibit any turbidity and/or phase separation.

In view of the this, the Board does not consider that document (3) can represent the closest prior art in the light of which the technical problem underlying the disputed patent should be formulated.

- 2.3 Document (6) discloses a detergent composition comprising a mixture which consists of at least one anionic surfactant selected from sulphonates and sodium soaps and at least one nonionic surfactant selected from alkylphenol polyglycol ethers and alkyl polyglycol ethers, an alkali selected from sodium carbonate, sodium silicate having a mole ratio of $\text{Na}_2\text{O}:\text{SiO}_2$ such as 2:1 to 1:3 and pentasodium triphosphate and a sodium or triethanolamine salt of a primary alkyl sulphate having a straight chain containing 6 to 10 carbon atoms, and an aqueous solution containing 10 to 20% by weight thereof (cf. Claims 1 and 8).

According to the last paragraph on page 6 (typewritten numbering) of this document, in compositions in the form of an aqueous solution having a solids content of 10 to about 20% by weight there is no tendency for phase separation or solid deposition to occur. Further, there is no tendency for gelling to take place at low temperatures in concentrated aqueous solutions prepared from compositions containing 10% or more of soap.

Thus, like the patent in suit, this document is concerned with providing concentrated stock solutions which are

stable and non-gelling at low temperatures. Therefore, in the Board's judgement, document (6) represents the closest state of the art.

- 2.4 In the light of this closest prior art, the technical problem underlying the patent in suit may be seen in providing further detergent compositions which, in the form of concentrated aqueous solutions, are stable and non-gelling at low temperatures.

According to the disputed patent, this technical problem is essentially solved by detergent compositions in which the detergent-active system comprises a water-soluble fatty acid soap component having Krafft-temperatures of from 0° to less than 30°C and an alkoxyated alcohol nonionic component having an HLB-value of between 12 and 16.

In view of the results obtained in Examples 3 to 5, 7, 8 and 11 to 16, the Board is satisfied that the above-defined technical problem is solved.

3. After examination of the cited prior art, the Board has concluded that the claimed subject-matter is novel. Since novelty is no longer in dispute it is not necessary to consider this matter in detail.
4. It still remains to be examined whether the requirement of inventive step is met by the subject-matter of the patent in suit.
- 4.1 As previously mentioned, document (6) is concerned with the same technical problem as the one underlying the disputed patent. According to this document, it is solved by compositions comprising a detergent active system containing anionic and nonionic surfactants, an alkali and as a hydrotrope, an alkyl sulphate (cf. Claim 1).

Particularly suitable soaps are those obtained from natural or hardened fatty acids, such as those derived from coconut oil, tallow or palm kernel oil (cf. page 4, lines 2 to 4). The nonionic surfactant, which may be selected from alkylphenol polyglycol ethers and alkyl polyglycol ethers, is preferably a mixture containing an alkylphenol polyglycol ether having an average of 4 to 6 glycol ether groups and an alkyl phenol polyglycol ether having an average of 8 to 12 glycol ether groups.

In the Board's judgement, the teaching of this document would not suggest to the skilled person that the problem addressed and solved in this document may also be solved, without the need to use a hydrotropic substance, if the components of the detergent active system are selected from fatty acid soaps having Krafft temperatures below 30°C and alkoxyated alcohols (alkyl polyglycol ethers) having HLB-values of between 12 and 16.

- 4.2 Document (3) discloses low-foaming laundry, dish-washing and cleaning compositions comprising surfactants, builders and water-insoluble addition products of polyglycerol and propylene oxide (cf. Claim 1). Suitable anionic, nonionic and amphoteric surfactants are listed in column 3, line 52 to column 4, line 49. Alkali metal soaps of natural and synthetic fatty acids, such as those derived from coconut oil, palm kernel oil and tallow are mentioned as one of the many suitable surfactants (cf. sentence bridging columns 3 and 4). Similarly, reference is made to alkyl polyglycol ethers as being one of several suitable nonionic surfactants (cf. column 4, lines 19 to 49). Therefore, from the general teaching of this document, the skilled person would deduce that the choice of surfactant for use in those prior art compositions is not critical.

Example 2 describes a composition within those laundry compositions generally disclosed (cf. compositions B in columns 7 and 8).

This specific composition contains a detergent active system comprising sodium soaps of fatty acids having 12 to 18 carbon atoms, a mixture of nonionic surfactants having an HLB-value of 12.1 (according to the Appellant and uncontested by the Respondents) and n-dodecylbenzene-sulphonate. In view of the presence of two water-insoluble compounds viz. the addition product use as foam depressant and magnesium silicate, this composition would be unsuitable for the preparation of laundry stock solutions. Moreover, this document is wholly silent with regard to stock solutions and their preparation. In the light of this silence and the above-mentioned inherent incompatibility, the skilled person, seeking a solution to the technical problem underlying the patent in suit, would have considered the document to be irrelevant.

In view of the above, it is immaterial whether the fatty acid soaps derived from coconut oil and palm kernel oil have Krafft-temperatures of less than 30°C, since, even if the Board were to accept this assertion, it would not render document (3) any more relevant having regard to the technical problem underlying the patent in suit of providing detergent compositions, which, in the form of concentrated aqueous solutions, are stable and non-gelling at low temperatures.

5. Therefore, in the Board's judgement, the proposed solution to the technical problem underlying the patent in suit is inventive. Thus, independent Claims 1 and 7 are allowable. Dependent Claims 2 to 6, which relate to preferred embodiments of the compositions claimed in Claim 1, are also acceptable.

Order

For these reasons, it is decided that:

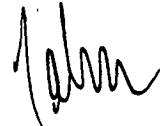
The appeal is dismissed.

The Registrar:

The Chairman:



M. Beer



K.J.A. Jahn

LWA
W. Roeser
03568