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**Datasheet for the decision
of 30 October 2013**

Case Number: T 0106/11 - 3.3.06

Application Number: 95114383.3

Publication Number: 702079

IPC: C11D1/83, A61K7/50, C11D1/86

Language of the proceedings: EN

Title of invention:
Low-irritant detergent compositions

Patent Proprietor:
Kao Corporation

Opponent:
Beiersdorf AG

Headword:
Low-irritant detergent compositions/Kao

Relevant legal provisions:
EPC Art. 52(1), 54, 56, 114(2)
RPBA Art. 12(4)

Keyword:
Late-filed evidence-admitted (no) - insufficient prima facie
relevance
Novelty - (yes)
Inventive step - non-obvious solution

Decisions cited:
T 0381/87, T 0472/92, T 0750/94

Catchword:



**Beschwerdekammern
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Chambres de recours**

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Case Number: T 0106/11 - 3.3.06

D E C I S I O N
of Technical Board of Appeal 3.3.06
of 30 October 2013

Appellant: BEIERSDORF AG
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Respondent: KAO CORPORATION
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 17 November
2010 rejecting the opposition filed against
European patent No. 702079 pursuant to Article
101(2) EPC.**

Composition of the Board:

Chairman: B. Czech
Members: G. Santavicca
J. Geschwind

Summary of Facts and Submissions

I. The appeal lies from the decision of the opposition division rejecting the opposition against European patent n° 0 702 079.

II. Claim 1 as granted reads as follows:

"1. A detergent composition comprising component (A) and component (B)':

(A) a glycerin derivative mixture consisting essentially of 25 to 85 % by weight of a monoester compound of glycerin, 5 to 65 % by weight of di- and triester compounds of glycerin, and 10 to 70 % by weight of an alkylene oxide adduct of glycerin; and

(B)' at least one surface active agent selected from a monoalkylphosphoric acid, a polyoxyethylene alkyl ether phosphoric acid, a polyoxyethylene alkylether acetic acid, or an alkyl polyglycoside, or a salt thereof;

the weight ratio of component (A) to component (B)',

(A)/(B)', being (5 to 80)/(95 to 20); and

the total concentration of component (A) and

component (B)' being 5 to 60 % by weight, based on the detergent composition."

III. The patent had been opposed in its entirety on the grounds of lack of novelty and inventive step (Article 100(a) EPC).

The evidence considered in the opposition proceedings includes the following documents:

E1: Letter of Cognis Deutschland GmbH & Co. KG to Beiersdorf AG, dated 12 December 2003, concerning

"Cetiol HE";

D4: "Analysenauftrag" an Fr. Osthus, Einsender Dr. Behler, Probenbezeichnung: "Ke 2774-Pt1/-Pt2, Cetiol HE, F909", dated 10 September 1992, two pages;

D7: WO 94/07458 A1; and,

D8: WO 93/25650 A1.

IV. In the decision under appeal, it was inter alia held that:

- a) The claimed subject-matter was novel over D7 and D8, in particular since even considering the evidence E1 and D4, it had not been convincingly shown that the commercial product Cetiol HE, referred to in the relevant examples of D7 and D8, anticipated the composition of Component (A) according to claim 1 at issue.
- b) The patent in suit addressed the problem of providing detergent compositions being low-irritant to the skin, having excellent foaming properties and detergency, and giving a satisfactory feel (sense of touch) after washing. Since both D7 and D8 addressed different products and problems, none of them was a realistic starting point for assessing inventive step. The examples of the patent in suit showed that the claimed embodiments provided the sought-for technical effects, and there was no reason to assume that these effects would not be obtained over the whole scope of the claims. The claimed subject-matter was thus not obvious.

V. With its statement setting out the grounds of appeal, the appellant (opponent) submitted a new item of evidence, namely:

E9: Letter of Cognis GmbH to Beiersdorf AG, dated 17 March 2011, concerning "Cetiol HE".

VI. In its response to the statement setting out the grounds of appeal, the respondent (patent proprietor) inter alia argued that E9 was late filed, was not suitable for clearly establishing the composition of the commercial product Cetiol HE and thus should not be admitted into the proceedings.

VII. In response to a communication issued by the Board in preparation for oral proceedings, the respondent filed a set of amended Claims 1 to 7 as Auxiliary Request with its letter of 22 October 2013.

VIII. Oral proceedings were held on 30 October 2013. The debate focused on the admissibility of late filed document E9 and on the issue of inventive step having regard to D8 as the closest prior art and its combination with D7. As regards novelty, the appellant merely referred to its written submissions.

IX. The appellant (opponent) requested that the decision under appeal be set aside and that the European patent No. 0 702 079 be revoked.

X. The respondent (patent proprietor) requested that the appeal be dismissed (main request), alternatively that the patent be maintained on the basis of the set of Claims 1 to 7 of the auxiliary request filed with letter of 22 October 2013.

XI. The appellant's arguments of relevance here can be summarised as follows:

Admissibility of new item of evidence E9

a) E9 was admittedly late filed. The appellant had constantly tried to find better evidence to prove the composition of Cetiol HE, as E1 and D4 had not been found to be conclusive. However, all the information required was initially in the hands of Cognis, a company that subsequently underwent many changes (initially a separate part of Henkel, then an autonomous company and now part of BASF). Despite all efforts, it had thus not been possible for the appellant to submit E9 earlier.

Nevertheless, the timely submitted D7 and D8 were the documents cited against novelty of the claimed subject-matter. E9 simply confirmed that they were novelty destroying.

b) In the present case it was not possible to establish the composition of Cetiol HE at the effective filing date of documents D7 and D8 with absolute certainty, as all available information was not in the hands of the appellant. Thus, the standard of proof "beyond any doubt" invoked by the respondent was not appropriate. Instead, in the present case, in accordance with the principle known as Ockham's razor, the evidence requiring the fewest assumptions, i.e. the information as given in E9, should be retained.

c) As regards the relevance of E9: Dr Behler, who was responsible for the research department of Cognis, was a reliable source. E9 dealt with the objection that the speculations made in E1 were not

completely correct, and proved the actual composition of Cetiol HE. As a weight percentage was indicated for the glycerin monoester, it had to be assumed that the percentages of the other derivatives were also by weight, as any other interpretation would make no sense. The balance of the composition (to 100%) must consist of unreacted or side products. In this respect, the "consisting essentially of" clause in Claim 1 also did not exclude further products. The opponent had not analysed the Cetiol HE, as it was assumed that an analysis carried out on material available e.g. in 2002 (ten years after the priority dates of D7 and D8) would not have been considered as reliable evidence.

- d) Thus, E9 was highly relevant and had to be admitted into the proceedings. Giving the patent proprietor the opportunity to file an auxiliary request at late stages of the proceedings to overcome objections, whilst not permitting the opponent to file further relevant evidence at late stages of the proceedings, would be a course of action not respecting the principle of equality of arms.

Novelty

- e) If E9 were however not admitted into the proceedings, as far as lack of novelty was concerned, the appellant would rely on the written submissions on file, according to which the subject-matter of claim 1 lacked novelty over example 8 of D7 and formulation G of D8.

Inventive step

- f) The closest prior art was disclosed by D8, in particular its Formulation B.
- g) According to the patent in suit the degree of irritation was tested by a panel of only 5 persons. Hence, the results thereof were not reliable. Also, it was apparent from the patent in suit that the compositions of Comparative Examples 11 and 12, and of Reference Examples 26 and 27 too, were milder than the composition of Example 19, which was according to Claim 1. Furthermore, no significant effect was related to the quantitative composition of the glycerine derivatives defined by Claim 1, which consequently was arbitrary. As no significant improvement over D8 had been proven, the problem solved over D8 was the mere provision of further low irritant shampoos.
- h) D8 disclosed that anionics were more irritant than alkylpolyglycosides, which instead reduced irritation. Formulation B of D8 contained a high amount (33% of Texapon® ASV) of anionics and a comparatively lower amount of alkylpolyglycosides (about 3%). Thus, the skilled person would obviously have increased the amount of alkylpolyglycosides, so attaining a total concentration of higher than the minimum 5 % by weight defined in Claim 1 for Components A and B'.
- i) As to the alkoxyated glycerine derivatives mixture, D8 disclosed that its formulations might contain further surfactants and D7 disclosed that nonionics such as alkoxyated glycerine

derivatives mixtures could be used in detergent compositions.

j) Hence, both the increase of the amount of alkylpolyglycosides (Component B') and the use of alkoxyated glycerine derivatives mixtures (Component A) in the formulations of D8 were at hand for the skilled person seeking to solve the problem posed. Since the raw materials of the glycerine derivative mixtures were mixtures of (natural) oils, as disclosed in D7, the skilled person would have tried different glycerine derivatives mixtures (Table 5 of the patent in suit showed that this was not difficult). By these trials he would obviously have come to compositions falling under the wording of Claim 1.

k) Therefore, the claimed subject-matter was obvious.

XII. The respondent's arguments of relevance here can be summarised as follows:

Admissibility of new item of evidence E9

a) E9 had been filed very late. It was not the only late filed document, as also D4 had been submitted after the nine-month opposition period. Thus, the submission of E9 was only a further tentative to overcome the contradictions present in e.g. E1, one of the documents initially submitted.

b) As regards the standard of proof to be applied in the assessment of the relevance, and hence of the admissibility, of belated evidence E9, the following was stressed: Cognis, the manufacturer of Cetiol HE, could have submitted its analysis.

As the issue of the composition of Cetiol HE was very serious for the fate of the patent in suit, the standard of proof "balance of probability" was not enough. The relevance of offered evidence E9 should be very critically and strictly examined, as established in T 750/94 (OJ 1998, 32), i.e. the standard "beyond any doubt" had to be applied.

- c) Contrary to the position of the appellant, E9 was not more relevant than the previously submitted evidence. In fact, E9 mentioned a Cetiol HE composition which was in contradiction with the previous statements made in both E1 and D4. Also, E9 did not contain any information concerning the analysis actually carried out, which thus could not be verified. The indications concerning the composition were incomplete and the missing 5% could not be included in a composition defined expressly by the clause "consisting of". Except for the monoester of glycerine, it was not clear what kind of percentage (weight or molar) was meant by the values given in E9. In this respect, E1 mentioned a molar ratio of 1:1. So it could not be accepted that only E9 contained a correct indication of the true composition of Cetiol HE.
- d) Furthermore, if, as stated in E9, the composition of Cetiol HE had not changed since 1993, the appellant could have analysed a Cetiol HE and brought up the results thereof as evidence of the composition of the Cetiol HE used in the examples of D7 and D8, which at most represented implicit disclosures thereof, and thus required complementary evidence. This had not, however, been made. Doubts were cast on the possibility of carrying out any such analysis, as it was not

clear what compounds were supposed to be present in the Cetiol HE. Hence, the analysis of Cetiol HE imposed an undue burden if carried out by anyone apart from Cognis (G 1/92, OJ 1993, 277, was referred to in this instance). Moreover, the Appellant's assertion in its statement of grounds of appeal (page 2, fourth paragraph), according to which the determination of the composition of Cetiol HE had not succeeded earlier despite the use of numerous analytical methods, appeared to confirm this position.

- e) Since the further arguments by the appellant were still contradictory in themselves, and the source of information (Dr Behler) having produced these contradictions was thus unreliable, no more weight should be given to E9 than to E1 or D4. Although the issue of the composition of Cetiol HE had been discussed throughout the entire opposition proceedings, E9 still did not convincingly prove the composition of the commercial product Cetiol HE. Since E9 was late filed and did not pass the required standard of proof, it should not be admitted into the proceedings.

Novelty

- f) The lack of knowledge of the composition of Cetiol HE implied that none of documents D7 and D8 could possibly be novelty-destroying.

Inventive step

- g) D8 described the closest prior art, as it addressed irritation and foam volume, and Formulation B disclosed therein was the closest

embodiment. Formulation B of D8 however contained 1% Cetiol HE and 3% (active) Alkylpolyglycosides (i.e. a total amount of A and B' of only 4 wt.%).

- h) The argument that a panel composed of five persons was not appropriate for assessing the degree of irritation of the claimed compositions was unacceptable, as it had been established in previous decisions of e.g. Board 3.3.07 (none of them was referred to), that such a panel was not inappropriate.

- i) D8 did not address two further properties of the claimed compositions, as dealt with in the patent in suit, namely the percent detergency and the feel of skin. These features were also not addressed by the appellant during the appeal proceedings. The patent in suit did not contain any comparative examples addressing the effect of the minimum total amount of components A and B', nor any comparison over Formulation B of D8. However, the patent in suit contained Table 5, which showed the importance of the use of alkoxyated glycerine derivatives mixtures. This was apparent from consideration of Comparative Example 9 (in which no glycerides were used), as well as from a comparison between Comparative Example 12 with Example 22. An improvement in all four tested properties (foam volume, percent detergency, irritation score and "feel of hand skin") was apparent from Example 22. So there was no need to reformulate the problem stated in the patent in suit.

- j) If the problem were, however, considered to consist in providing a mere alternative, then it

should still be considered that this alternative nevertheless had to lead to effects not mentioned in D8.

- k) D8 mentioned the importance of alkylpolyglycosides in respect of reduction of irritancy but remained silent as to any technical effect of Cetiol HE, which was merely referred to as one of many possible additives. That Cetiol HE was of no relevance for D8 was also apparent from other examples of D8 which did not contain it, such as Formulation C. Thus, D8 did not contain any indication to modify the composition of Cetiol HE or to incorporate a specific ethoxylated glycerine derivatives mixture as claimed.

- l) D7 (page 12, first full paragraph, was referred to) related to effects which were different from those described in the patent in suit and in D8. D7 generally mentioned that glycerides were known additional ingredients which could be used in its compositions. D7, however, gave only one example of such glycerides. In fact, only Example 8 of D7 used a glycerine derivative mixture (Cetiol HE). Also, this example did not contain detergents, as the commercial product Lamepon® S was not a detergent, so that Example 8 of D7 did not appear to concern a shampoo. So, the question arose why the skilled person should consider a composition such as that of Example 8 of D7 which was not a detergent composition. Since D7 was not relevant and also unrelated to D8, the combination of D8 with D7 was arbitrarily made.

- m) As regards the motivation to take measures for reducing irritation, the skilled person reading

D8 was given the hint to reduce the high amount of anionics of Formulation B of D8 by opting e.g. for Formulations A, C or D of D8, all of them using less anionics, more alkylpolyglycosides and no Cetiol HE.

- n) As concerns the motivation for choosing an alkoxyated glycerine derivatives mixture with the quantitative distribution defined in Claim 1 of the patent in suit, there was no hint whatsoever in D8, which focused on the end use of formulations having an adjusted viscosity. Even if the skilled person were to consider the incorporation of glycerine derivatives, such as disclosed in D8 and D7, he could not find any hint at the specific quantitative distribution as defined in Claim 1 of the patent in suit. Thus, starting from D8, and assuming that D8 were combinable with D7, the skilled person would still have to make further choices in order to arrive to the claimed subject-matter, for which, however, the skilled person found no hint whatsoever.

- o) Since neither D8 nor D7 mentioned effects such as percent detergency and skin feel, nor contained any statement as to the criticality of the adjustment of the quantitative distribution of the alkoxyated glycerine derivatives of the used mixture, it had not been shown that the skilled person aiming at attaining the sought-for effects illustrated by the examples of the patent in suit was motivated to modify Formulation B of D8 by incorporating an alkoxyated glycerine derivatives mixture as defined in Claim 1 of the patent in suit. Therefore, the claimed subject-matter was not obvious.

Reasons for the Decision

1. The appeal is admissible.

Admissibility of document E9

2. E9 was only submitted with the statement setting out the grounds of appeal.
 - 2.1 The grounds adduced for this belated submission are essentially based on the allegation that the manufacturer of Cetiol HE, i.e. the firm Cognis, possessed all the information concerning the composition of this product, but had undergone a number of changes (throughout the opposition period), which did not permit to obtain and file this new item of evidence earlier.
 - 2.2 In E9 it is stated that Cetiol HE was commercialised since 1993 without changes in the composition. E9 indicates a composition allegedly pertaining to Cetiol HE, which, if acknowledged as the true composition of this commercial product at the effective filing dates of D7 and D8, would appear to fulfil the definition of Component (A) of Claim 1 as granted.
 - 2.3 For this reason the respondent invoked the application of a very strict and critical examination of the relevance of the item of evidence E9 in relation to the issue of the composition of Cetiol HE, as established in T 750/94.
 - 2.4 The issue of fact to be established in T 750/94 was "when an alleged prior publication had been made available to the public". The acknowledgement that that

publication was prior to the effective date of the patent application under examination would have led to the refusal of the application.

2.5 The issue of fact to be established in the present case is different, namely "what composition was made available by the reference to the commercial product Cetiol HE in Shampoo 8 of D7 or Formulation G of D8". D7 and D8 have been published before the priority date of the patent in suit but they are silent on the actual composition of Cetiol HE.

2.6 Nevertheless, the consequences are the same in both cases, as, also in the present case, the issue of fact, if established, may potentially result in revocation of the European patent in suit.

2.7 Thus, the question arises which standard of proof is to be applied in the present case, the normal standard "balance of probability" (as in T 381/87, OJ 1990, 213, see Point 4.4(a) of the Reasons) or the more severe standard "up to the hilt" (as in T 0472/92, OJ EPO 1998, 161, Point 3.1 of the reasons, in which all the evidence in support of the invoked prior use lay within the power and knowledge of the opponents invoking it).

2.8 There are at least two points in favour of the application of the most strict standard of proof in the present case, namely :

- (a) Only the manufacturer of Cetiol HE had full power and knowledge of the composition of Cetiol HE. Cetiol HE, as well as of its production history, i.e. was in the best position to provide the needed information. The appellant in the present case was not the manufacturer, i.e. did not

possess itself all the required information. However, the appellant had relied only on the manufacturer for providing the missing information, without carrying out itself any independent analysis of the commercial products available. Hence, for the Board, the argument of the appellant that the information on the composition of Cetiol HE was not in its hands is not, as such, a sufficient ground for the application of a less stricter standard of proof.

- (b) If the composition of Cetiol HE as described in E9 were to be acknowledged as the true composition of the commercial Cetiol HE referred to in D7 or D8, this would potentially result in a finding of lack of novelty over D7 or D8, which would prejudice maintenance of the patent as granted, and which would have a considerable bearing on the assessment of inventive step, since it would lead with a strong likelihood to the revocation of the patent (e.g. as in the case underlying T 381/87).

2.9 Hence, the present case requires the application of the more severe standard of "beyond any doubt" (as established e.g. in T 0472/92), i.e. a strict and careful evaluation of the contents of E9.

2.10 As regards the coherence, relevance and hence probative value of the information contained in E9, the following is noted:

- (a) No indication, let alone evidence, is given as to which type of analysis was actually carried out, i.e. how the indicated composition was determined. Hence, the mentioned "our analysis" cannot be

verified, let alone reproduced on commercially available Cetiol HE.

- (b) E9 does not indicate by which preparation method the analysed product had been obtained. Again, it is not possible to reproduce the analysed product.
- (c) A percentage by weight is indicated only for the monoester, so that it is not unambiguously apparent what kind of percentage (by weight or by mole) applies to each of the other components.
- (d) If all mentioned percentages were wt.-%, as alleged by the appellant, the sum of all components would be less than 100, i.e. the given composition would not be completely defined. No evidence has ever been submitted to support the allegation that the remaining components must be unreacted and/or side-products.

2.11 Considering the apparent difficulties involved in analysing this commercial product (e.g. statement of grounds, page 2, fourth paragraph), the Board actually also has strong doubts as to the analysability and reproducibility of any Cetiol HE products commercially available at the effective filing dates of D7 and D8.

2.12 Since the composition indicated in E9 differs from that of E1 and is not comparable to that of D4, and since the latter lacks any quantification, it is not apparent why only one of these three items of evidence, namely E9, should be more reliable than the others. Consequently, E9, if admitted, would take away any residual relevance of E1 and D4, without constituting itself a more relevant evidence.

- 2.13 It follows from the foregoing that E9 is not only late filed but also not sufficiently relevant, let alone more relevant than E1 or D4, to justify its admission into the proceedings.
- 2.14 Therefore, the Board decided not to admit E9 into the proceedings (Article 114(2) EPC and Article 12(4) RPBA).

Main Request

Novelty

3. At the oral proceedings, as a consequence of the non-admission of E9, the appellant merely referred to its submissions made in writing as regards the alleged lack of novelty over Shampoo 8 illustrated in D7 and/or Formulation G disclosed in D8, both comprising Cetiol HE. In said submissions, it had relied on E1 and D4 to show that the composition of Cetiol HE met the definition of component A according to claim 1 at issue.
- 3.1 In respect of E1 and D4, the Board has no reason to deviate from its preliminary opinion as expressed in the communication in preparation for oral proceedings (see point 9.1 thereof).
- 3.1.1 As noted therein, E1 contains many mere assumptions ("Wir gehen davon aus, dass", "Bei der analogen Herstellung" und "ist mit hoher Sicherheit anzunehmen") concerning the composition of Cetiol HE. Moreover, E1 is a mail item written in 2003, i.e. several years after the filing dates of D7 and D8.

- 3.1.2 D4 is a document from 1992 reporting the results from an analysis carried out on a sample of Cetiol HE. It identifies a certain amount of Glycerin-EO as well as three other components which might "speculatively" (as also indicated by question marks) be taken as Glycerin-EO-mono-, -di- and -triester, without providing any reliable quantification of the detected intensities.
- 3.2 In the board's judgement, considering the absence of any item of evidence unambiguously and convincingly establishing the composition of the Cetiol HE products referred to in D7 and D8, the alleged lack of novelty over the disclosures of D7 and D8 is not proven.
- 3.3 The subject-matter of claim 1, and consequently of dependent claims 2 to 7, is thus novel (Articles 52(1) and 54(1)(2) EPC).

Inventive step

The invention

4. The invention relates to low-irritant detergent compositions (title). More particularly, according to the description of the patent in suit (paragraph [0011]) the invention is concerned with the provision of a detergent composition being low-irritant to the skin, having excellent foaming properties and detergency and giving satisfactory feel (sense of touch) after washing.

Closest prior art

5. For the Board, document D8 discloses the closest prior art considering the technical issues addressed therein and the nature and amounts of the ingredients of the

compositions disclosed therein. This was also common ground between the parties at the oral proceedings.

5.1 D8 relates to viscosity adjusted surfactant concentrate compositions (title) and describes the preparation highly concentrated, aqueous compositions comprising anionic or amphoteric surfactants which are flowable, pumpable, pourable and stable on storage (page 2, lines 20-25). Said compositions are provided to overcome inter alia a known drawback of anionic surfactants employed in a large number of end-use applications, namely their generally highly irritant effect on the human skin and eyes (page 8, line 14, to page 9, line 3). To overcome this drawback, D8 teaches the use of compositions including alkylpolyglycoside surfactants in the concentrate, particularly above 10% and preferably above about 25 or 30% of the active surfactant in the concentrate, in order to render the formulated products no longer highly irritant to the skin. Accordingly, the concentrate finds special utility for formulation into cosmetic, particularly personal skin care, products and applications, where mild or non-irritant properties are desirable, such as shampoos, foam baths, hand soaps, hair conditioners, facial cleansers and the like (page 33, lines 11 to 15; page 35, last paragraph). D8 also mentions the importance of good foaming properties (page 33, line 8; page 23, line 22, to page 24, line 10). Thus, like the patent in suit, D8 is focused on products which are mild to skin and eyes and have good foaming properties.

5.2 More particularly, D8 (Claim 1) concerns a method of preparing a highly concentrated flowable, pumpable, pourable and storable surfactant composition of a mixture consisting essentially of at least one anionic or amphoteric surfactant and at least one

alkylpolyglycoside surfactant comprising adding to said mixture an effective amount of a viscosity-adjusting agent selected from the group consisting of inorganic and organic electrolytes. As an example of such a composition, D8 (see page 37) discloses a "formulation B" qualified as "low irritant shampoo" and having the following composition:

FORMULATION B

LOW IRRITATION SHAMPOO

<u>INGREDIENTS</u>	<u>% WT/WT</u>
Water	54.95
TEXAPON ASV (1)	33.00
(Sodium Laureth Sulfate (and) Magnesium Laureth Sulfate (and) Sodium Laureth-8 Sulfate (and) Magnesium Laureth-8 Sulfate (and) Sodium Oleth Sulfate (and) Magnesium Oleth Sulfate)	
Alkylpolyglycoside (1)	6.00
CETIOL HE (1) (PEG-7 Glyceryl Cocoate)	1.00
STANDAMID SD (1) (Cocamide DEA)	3.00
Kathon CG (2)	0.05
Sodium Chloride	2.00
Dyes and Fragrance	q.s.
	<u>100.00</u>

- (1) Product of Henkel Corp.
- (2) Product of Rohm & Haas

5.2.1 "Cetiol HE", labelled as "PEG-7 Glyceryl Cocoate" undisputedly represents a mixture of polyoxyethylene Glyceryl cocoate ester(s) of glycerine, i.e. a glycerin derivatives mixture, fulfilling, except for the quantitative distribution of its derivatives, the definition of Component A of Claim 1.

5.2.2 The Alkylpolyglycoside (APG) used in Formulation B of D8 is undisputedly a surface active agent fulfilling the definition of Component B' of Claim 1. As such APGs

appear to have an active content of 50% (Tables 1, 4, 9, 12A and 13A of D8 were referred to by the appellant), it has been argued that the amount of APG in Formulation B of D8 is about 3% wt/wt. This was not disputed and the Board has no reason to take a different stance.

- 5.2.3 It follows from the foregoing that the weight ratio of the Cetiol HE component (1 %) to the Alkylpolyglycoside component is about 1:3 and the total amount of Cetiol HE Cetiol HE and Alkylpolyglycoside is 4 % by weight, based on the shampoo composition, i.e. less than the lower limit of at least 5% wt/wt prescribed by claim 1 at issue.

Technical problem according to the patent in suit

6. At the oral proceedings, the Respondent referred to the technical problem as stated in the patent in suit (paragraph [0011]), namely "to provide a detergent composition which is low-irritant and excellent in foaming properties and detergency, and gives satisfactory feel (sense of touch) after washing".

Solution

7. As a solution to this technical problem, the patent in suit proposes the detergent composition according to claim 1 as granted, which is characterised in that it comprises (emphasis added by the Board)
"(A) a glycerin derivative mixture consisting essentially of **25 to 85 %** by weight of a **monoester** compound of glycerin, **5 to 65 %** by weight of **di- and triester** compounds of glycerin, and **10 to 70 %** by weight of an **alkylene oxide adduct of glycerin**; and

*(B)' at least one surface active agent selected from a monoalkylphosphoric acid, a polyoxyethylene alkyl ether phosphoric acid, a polyoxyethylene alkylether acetic acid, or an alkyl polyglycoside, or a salt thereof; the weight ratio of component (A) to component (B)', (A)/(B)', being (5 to 80)/(95 to 20); and the total concentration of component (A) and component (B)' being **5 to 60** % by weight, based on the detergent composition".*

Alleged success of the solution

8. Examples 10, 11, 13 to 18, 19-25 and 28 of the patent in suit show that the use of the claimed compositions results in good to excellent feel on shampooing, rinsing and drying with towel and excellent feel after drying, foam volume of about 270 ml or higher, about 90% detergency, irritation score lower than 1,3, mostly lower than 1,0 and good to excellent feel of hand skin.

8.1 The objection raised by the appellant that the results shown in these examples of the patent in suit, such as the evaluation of the skin irritation, had been obtained from tests carried out by a panel of only five persons and were thus not reliable, is not convincing, for the following reasons:

(a) The measurement of skin irritation as illustrated in the patent in suit (paragraph [0056]) has carried out on "five subjects, who are not defined as being five "specialized panel members" (compare with paragraph [0059] of the patent in suit). Also, the skin reaction was judged based on observation, thus descriptive analysis, of established objective skin reactions, hence in a

specialized way, i.e. not necessarily by the five subjects.

(b) Moreover, the organoleptic evaluation of "feel of the hands" (sensory analysis) (paragraph [0059] of the patent in suit) has been carried out by ten specialized panel members, and this has not been attacked.

8.2 As regards effects attributable to the claimed detergent composition, a comparison between Comparative Examples 9 and/or 12 (rated "poor") and Example 22 (rated "excellent") also shows the following:

8.2.1 The composition of Comparative Example 9 does not contain Component A (glycerine derivatives mixture). Such absence does not appear to affect the foam volume. The other properties are, however, worsened compared to the tested compositions containing a glycerine derivatives mixture. Hence, Comparative Example 9 shows the criticality of the presence of a glycerine derivatives mixture. Since Formulation B of D8 does contain a glycerine derivatives mixture, Comparative Example 9 does not reflect the disclosure of D8/ formulation B.

8.2.2 Comparative Example 12 contains the same Component (B)' as Example 22 together with a glycerine derivatives mixture. However, the glycerine derivatives mixture (Component (A)) of Comparative Example 12 differs from that of Example 22 in that it contains less than 25% by weight of monoester, more than 65% by weight of di- and tri-esters and less than 10% by weight of the ethoxylated adduct of glycerine. Thus, Comparative Example 12 shows the criticality of the quantitative distribution of the glycerine derivatives as defined in

Claim 1. The properties attained by the detergent composition of Comparative Example 12, with respect to Example 22, are all significantly worsened.

For the board, the composition illustrated by Comparative Example 12 does not reflect Formulation B of D8; this was neither argued nor evidenced.

8.2.3 Summing up, the comparison invoked by the respondent shows that the choices defined in Claim 1 attain particular effects, i.e. are critical, hence are not arbitrary features.

8.3 However, proof that a solution is not made up of arbitrary features does not necessarily prove that an improvement is effectively attained over the closest prior art, i.e. formulation B according to document D8.

8.3.1 In this respect, the Board observes that none of the examples of the patent in suit (let alone Comparative Examples 9 and 12) actually reflects the closest prior art D8/formulation B. Moreover, no examples comprising a comparison with said formulation B were submitted separately.

8.3.2 The Board thus concludes that no improvement whatsoever - compared to D8/Formulation B - attributable to the claimed composition, across the whole breadth of Claim 1, has been made plausible or demonstrated by evidence.

Reformulation of the technical problem

9. D8 was not taken into account in the application as filed when the technical problem stated therein and retained in the patent in suit (see point 6 supra) was

formulated. However, the problem solved must be formulated in relation to results, if any, effectively attained starting from the closest prior art D8/ formulation B. Also, the formulated problem should be derivable from the application as filed and be effectively solved by the solution proposed across the whole breadth of Claim 1 of the patent in suit.

- 9.1 Since the problem effectively solved cannot be seen in providing compositions improved in comparison to the closest prior art, it has to be re-formulated in a less ambitious manner.

Starting from D8/Formulation B, it can be seen in the provision of a further low-irritant detergent compositions having properties such as detergency and foam volume and skin feel comparable to those of D8/Formulation B.

- 9.2 In view of the experimental results reported in the patent in suit (supra) it is plausible that this less ambitious problem is solved by the claimed solution across the full breadth of claim 1. This was not in dispute.

Obviousness

10. It remains to be decided whether starting from the closest prior art the claimed solution was obvious for the skilled person in the light of common general knowledge and the prior art invoked by the Appellant.

- 10.1 Document D8 taken alone

- 10.1.1 D8 also describes low irritant detergent compositions, for instance Formulation F, a "low irritation foam

bath/body shampoo" having a higher concentration of Alkylpolyglycoside (6 % by weight), as well as a total concentration of Cetiol HE and Alkylpolyglycoside of (1 % + 6 % = about 6.5 % by weight), i.e. more than 5 % by weight based on the total weight of the detergent composition.

The provision of compositions with a total concentration of alkoxyated glycerine ester component (comparable to Component A of claim 1 at issue) and Component B' of more than 5 % by weight is thus contemplated in D8 as a viable, sought-for option.

10.1.2 D8 does not, however, mention any specific weight percent distribution of the components making up the glycerine derivative mixture illustrated (Cetiol HE). Furthermore, D8 contains no indications as to the function and/or effects of the incorporation of said ingredient into the exemplified compositions, let alone the possible implications of variations in terms of the weight percent distribution of the different components of the glycerine derivatives mixture.

10.1.3 Hence, document D8 taken alone neither points to nor suggests the incorporation a glycerine derivatives mixture meeting the quantitative compositional definition of component A according to claim 1 at issue, which was shown to be critical for achieving good results, let alone in a certain weight ratio with respect to the APG component B'.

10.2 Combination of document D8 with document D7

10.2.1 D7 concerns hair-care agents consisting of a combination of (a) cationic, amphoteric, zwitterionic or non-ionic polymers, (b) alkylpolyglycosides and (c)

fat- or wax-based compounds, and illustrates compositions containing "Cetiol HE", which is also in this document merely referred to as "PEG-7-Glyceryl cocoate (see page 28, reference number 24).

10.2.2 However, D7 too does not describe the function to be fulfilled by the Cetiol HE component used in the exemplified compositions, let alone any implication of the weight percent distribution of its glycerine derivatives mixture component. In this respect, the second paragraph on page 12 of D7 (invoked by the appellant) discloses glycerine derivative mixtures which are neither alkoxyated nor described in terms of the weight percent distribution of their components. The passages on page 15 of D7 (lines 9 to 14 and 18 to 20) invoked by the Appellant concern alkoxyated glycerine derivative mixtures, whose quantitative compositions are also not disclosed.

Moreover, the board observes that the concentrate composition according to D8 (page 17, last paragraph) consists essentially of the anionic or amphoteric surfactants, the alkylpolyglycosides, the viscosity reducing agent and water. Hence, there is no obvious apparent reason for which the skilled person would consider adding further nonionic components of the type disclosed in D7 to a composition as illustrated in D8 already containing Cetiol HE. Even if such an addition were seen as an viable option, nothing can be gathered from D7 regarding a possibly suitable weight percent distribution to be set in this manner. On the other hand, the optional co-surfactants mentioned on page 35, lines 5-7, of D8, which can be used in its end-use formulations, are not necessarily the nonionic components as described in D7.

- 10.3 There is no further item of evidence on file potentially making it credible that the incorporation of a glycerine derivatives mixture as defined in claim 1 (component A) at issue was a known option at hand for the skilled person trying to solve the stated technical problem (point 9 supra) at the effective filing date of the patent in suit.
- 10.4 Hence, having regard to the prior art invoked, it has not been shown that the skilled person starting from D8/formulation B and trying to provide further low irritant compositions having comparable properties in terms of detergency, foam volume and feel, was induced by the cited prior art and common general knowledge to modify the composition of formulation B of D8 in a way obviously leading to a composition falling within the terms of claim 1 at issue.
- 10.5 The subject-matters of claim 1 and, consequently, of claims 2 to 7 dependent thereon, thus involve on an inventive step (Article 52(1) and 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

B. Czech

Decision electronically authenticated