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D E C I S I O N
of 18 July 2003

Case Number: T 0818/00 - 3.3.6

Application Number: 94915116.1

Publication Number: 0700427

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Language of the proceedings: EN

Title of invention:
Detergent compositions

Patentee:
UNILEVER PLC, et al

Opponent:
Henkel Kommanditgesellschaft auf Aktien
The Procter & Gamble Company

Headword:
Detergent composition/UNILEVER

Relevant legal provisions:
EPC Art. 123(2), 56

Keyword:
"Main request and second auxiliary request: added subject-
matter (yes) - inadmissible generalisation"
"First auxiliary request: inventive step (no)"
"Third auxiliary request: inventive step (yes)"

Decisions cited:
-

Catchword:
-



Case Number: T 0818/00 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 18 July 2003

Appellant III:
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Decision under appeal:

**Interlocutory decision of the Opposition
Division of the European Patent Office posted
11 July 2000 concerning maintenance of European
patent No. 0700427 in amended form.**

Composition of the Board:

Chairman: G. Dischinger-Höppler
Members: P. Ammendola
U. J. Tronser

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning the maintenance of European patent No. 0 700 427 in amended form on the basis of the second auxiliary request of the Appellants II (Patent Proprietors) filed during the oral proceedings of 24 May 2000.

II. The claims of the granted patent are identical to those of the patent application as originally filed. Of particular interest in the present case are claims 1, 5 and 6 which read:

"1. A particulate detergent composition which is not the direct product of a spray-drying process, the composition having a bulk density of at least 650 g/l and comprising:

(a) from 15 to 50 wt% of a surfactant system consisting essentially of

(i) ethoxylated nonionic surfactant which is a primary C8-C18 alcohol having an average degree of ethoxylation within the range of from 5.2 to 8.0,

(ii) optionally primary alcohol sulphate,

(iii) optionally not more than 25 wt% (based on the surfactant system) of alkylbenzene sulphonate,

- (b) *from 20 to 70 wt% (anhydrous basis) of alkali metal aluminosilicate builder,*
- (c) *from 5 to 40 wt% of a water-soluble salt of citric acid,*
- (d) *optionally other detergent ingredients to 100 wt%."*

"5. *A detergent composition as claimed in claim 1, which contains at least 10 wt% (in total, based on the whole composition) of ethoxylated nonionic surfactant."*

"6. *A detergent composition as claimed in claim 1, which contains at least 5 wt% (based on the whole composition) of primary alcohol sulphate."*

Also the remaining claims 2 to 4 and 7 to 9 are dependent on claim 1 only. They define further embodiments of the composition of claim 1.

III. The European patent had been opposed on the grounds of Article 100(a) EPC by Appellant III (Opponent I) and Appellant I (Opponent II) for lack of novelty and of inventive step (Articles 52(1), 54 and 56 EPC). An objection based on the ground of insufficient disclosure (Article 100(b) EPC) raised by Appellant I had been withdrawn during the opposition proceedings.

The following documents had been cited, *inter alia*, in support of the oppositions:

Document (4) = EP-A-0 349 201

Document (5) = EP-B-0 509 787

- IV. During the opposition proceedings the Appellants II had relied on Document (11) = EP-A-0 544 492 with regard to inventive step, and Appellant I had filed under cover of a letter dated 24 April 2000 an experimental report (hereinafter indicated as "Anderson I").
- V. At the oral proceedings before the Opposition Division the Appellants II had filed amended sets of claims as first, second and third auxiliary request.
- VI. In its decision, the Opposition Division found that the subject-matter claimed in the patent as granted was not novel vis-à-vis example 6 of Document (4) and that the examples in the patent in suit did not demonstrate the occurrence of improved properties in respect of the whole range of the composition claimed in the first auxiliary request. However, it considered that example 2 in the patent in suit demonstrated the excellent solubility and dispensability from washing machine drawers of the compositions claimed in the second auxiliary request and that example 1 and comparative example 1A in the patent in suit also demonstrated that the compositions of this request had improved solubility in comparison to detergent compositions comprising an ethoxylated alcohol (hereinafter "EA") with a lower degree of ethoxylation.

It also found that the tests of Anderson I either considered washing conditions not dealt with in the patent in suit or did not refer to machine washing conditions at all. Therefore, these tests were disregarded.

The Opposition Division considered that the prior art disclosed in Document (4) represented the closest prior art. It regarded the prior art disclosed in Document (11) not suitable as a starting point for the assessment of inventive step since this latter document was published after the filing date of the earliest of the three GB patent applications from which the patent in suit claimed priority.

It found that the skilled person had no reason to expect that increasing the amount of EA used in example 6 of Document (4) would result in excellent solubility and dispersibility and concluded that the subject-matter of the claims of the second auxiliary request was based on an inventive step.

- VII. All parties to the opposition proceedings appealed against this decision.

- VIII. Appellant I filed with the grounds of appeal Document (12) = US-A-4 231 887 and additional experimental comparisons (hereinafter "Anderson II").

- IX. Appellants II filed under cover of the letter dated 16 May 2003 seven sets of amended claims as main and first to sixth auxiliary requests. Of these only the main request and the first to third auxiliary requests are relevant for this decision.

Independent claim 1 of the **main request** is substantially identical to that of the first auxiliary request considered not allowable in the decision under appeal and differs from that of the patent as initially

filed and granted (see above item II) only in that the feature "wherein the detergent composition contains at least 5 wt% (based on the whole composition) of primary alcohol sulphate" is added after the definition of component (d), and in that the word "optionally" is no longer present in the definition of component (ii). The remaining claims 2 to 8 are dependent on claim 1 and are identical to original claims 2 to 5 and 7 to 9.

Claims 1 to 7 of the **first** auxiliary request are identical to claims 1 to 4 and 6 to 8 of this main request.

Independent claim 1 of the **second** auxiliary request is substantially identical to that of the second auxiliary request considered allowable in the decision under appeal and differs from that of the patent as initially filed and granted only in that the feature "wherein the detergent composition contains at least 10 wt% (in total, based on the whole composition) of ethoxylated nonionic surfactant" is added after the definition of component (d), and in that the word "optionally" is no longer present in the definition of component (ii). The remaining claims 2 to 7 are dependent on claim 1 and are identical to claims 2 to 4 and 7 to 9 as initially granted.

The **third** auxiliary request comprises a single claim identical to claim 1 of this second auxiliary request.

Appellants II also filed under cover of the letter dated 18 June 2003 additional experimental evidence (hereinafter "last filed tests").

- X. Oral proceedings were held before the Board on 18 July 2003.

- XI. Appellants I and III argued in writing and orally substantially as follows.

Claim 5 of the main request and the dependent claims of the second auxiliary request of Appellants II covered particular compositions with an amount of ethoxylated nonionic surfactant of at least 10 wt% of the whole composition which violated Article 123(2) EPC.

The late filed Document (12) should be considered allowable in view of the relevance of its disclosure.

With respect to novelty, Appellants I and III argued that even though the detergent compositions explicitly disclosed in Documents (4), (5) and (12) were not according to any of the present claims, the skilled person in reading these citations would seriously contemplate modifying or combining their explicitly disclosed features so as to arrive at compositions according to the present requests of Appellants II.

With respect to the assessment of inventive step of the subject-matter of the first and third auxiliary requests, Appellants I and III argued that Documents (4), (5) and (12) all represented suitable starting points and submitted that the experimental data in the patent in suit and the last filed tests of Appellants II were either not understandable, not technically relevant under the usual machine washing conditions in Europe or not described in sufficient detail to establish their reliability. The only information

possibly derivable from such experimental data was that they credibly demonstrated that the feature distinguishing the claimed detergent compositions from the prior art provided a solution **neither** to the problem of a general delivery improvement, as defined in the patent in suit, **nor** to the problem of only an improved dispensing of the detergent powder from dispensing devices to be placed in the washing machine drum, as redefined by Appellants II during the oral proceedings before the Board. The latter technical problem constituted a surprise for the Appellants I and III and should not be admitted or, alternatively, the case should be remitted to the first instance for further prosecution.

Appellant I attempted also to rely on Document (11) for presenting arguments in respect of the assessment of inventive step.

Appellants I and III submitted that claim 1 of the first auxiliary request covered detergent compositions containing only a few percent of EA and that the data in the patent in suit were insufficient for demonstrating that the desired improved delivery properties were credibly achieved by such compositions.

With respect to the third auxiliary request, the Appellants I and III maintained that the compositions claimed therein resulted in worse delivery properties. This was evident from the comparison between the results of example I and comparative example V of the last filed tests.

Moreover, the data in Anderson I and II also credibly demonstrated that no improved but rather worse delivery properties were achieved by the compositions of this third auxiliary request in comparison to the corresponding composition according to example 6 of Document (4).

XII. Appellants II refuted the above objections and argued substantially as follows.

On a fair reading of the original dependent claims in the patent application the skilled person would consider all the features defined therein implicitly disclosed as preferred features of the compositions of the invention in general. Hence, the original patent application implicitly disclosed as further embodiments of the detergent compositions of original claim 5, those additionally characterized according to the other original dependent claims.

They also argued that during the drafting of the patent application, the description had erroneously not been adapted to support claim 5 (which had probably been added at the very the last minute) and that this evident error had regrettably also not been corrected during the patent examination by the EPO.

The Appellants II submitted that the late-filed Document (12) was not relevant since it referred only to an "adjuvant" for detergent compositions.

With respect to inventive step, they conceded that compositions with a too low content of EA would not credibly have the desired improved delivery properties. A person skilled in the art would, however, not consider these compositions encompassed in the claimed subject-matter.

Appellants II also argued that the examples in the patent in suit and in the last filed tests represented a fair and credible evidence that the claimed compositions had improved delivery properties at least when dispensing the detergent powder from dispensing devices to be placed in the washing machine drum.

XIII. The Appellants I and III requested that the decision under appeal be set aside and the patent be revoked in its entirety and that the appeal of the Appellants II be dismissed.

The Appellants II requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the claims filed with letter of 16 May 2003 indicated as main request or, alternatively, on the basis of one of the first to sixth auxiliary requests filed with the same letter and that the appeals of Appellants I and III be dismissed or that the case be remitted to the first instance for further prosecution.

Reasons for the Decision

1. *Admissibility of the main request and of the second auxiliary request in view of Article 123(2) EPC*

1.1 Article 123(2) EPC prohibits amendments of a European patent which result in the extension of its subject-matter beyond the content of the application as filed. It is established case law of the Boards of Appeal that this content only encompasses what is directly and unambiguously disclosed in the application as filed either explicitly or implicitly (see e.g. the Case Law of the Boards of Appeal of the EPO, 4th edition, III.A.3.3). In this context "implicit disclosure" means disclosure which any person skilled in the art would objectively consider as **necessarily implied** in the explicit content (e.g. in view of general scientific laws, common general knowledge in the relevant technical field or purely logical necessity arising from the relationships among distinguished portions of the application as filed).

1.2 The subject-matter of claims 1 to 4 and 6 to 8 of the main request complies with the requirements of Article 123(2) EPC for the following reasons.

Claim 1 of the main request differs from claim 1 as originally filed in that it further requires that the amount of primary alcohol sulphate (hereinafter "PAS") must represent at least 5 wt% of the whole composition (see above points II and IX of the Facts and Submissions). Hence its subject-matter corresponds to that defined in the originally filed claim 6 (see above point II of the Facts and Submissions).

Even though the **wording** of the dependent claims 2 to 8 of the main request and that of dependent claims 2 to 5 and 7 to 9 as originally filed are respectively identical (see above points II and IX of the Facts and Submissions), their **subject-matter** is obviously different since the original claims 2 to 9 were only dependent on original claim 1. The dependent claims of the present main request define instead further embodiments of the compositions according to original claim 6 whose features are now incorporated into claim 1.

Claims 1 to 4 and 6 to 8 of the present main request find support in the description of the original patent application since the features cited therein are explicitly defined as generally preferred features of the invention: see e.g. "*Preferably the whole composition contains at least 5 wt% of PAS.*" at page 8, lines 5 to 6 and the similar statements made with respect to the features of the original claims 2 to 4 and 7 to 9 at page 6, lines 20 to 25, page 5, lines 33 to 35, page 8, lines 1 to 5, page 10, lines 7 to 13, and page 9, lines 22 to 30. This amounts to an implicit disclosure that these preferred features may possibly be combined with each other. Therefore, the subject-matter of claims 2 to 4 and 6 to 8 of the main request is already disclosed in the original patent application.

- 1.3 The Appellants II alleged that substantially the same reasoning also applied to claim 5 of the main request and to the dependent claims of the second auxiliary request. They maintained that the person skilled in the art would, on a fair reading of the original dependent

claims, consider their features as **generally preferred** features of the compositions of the invention.

- 1.4.1 This argument is not convincing since, **unlike** the features of the other dependent claims, the feature of original claim 5, i.e. a content of EA of at least 10 wt%, is not mentioned in the description of the application as filed. Therefore, the original patent application provides neither explicit disclosure of this feature being generally preferred nor explicit counterpart for any further embodiment of the composition of this claim.

The fact that two of the six disclosed examples in accordance with the invention, i.e. examples 5 and 6, refer to compositions containing less than 10 wt% of EA, further corroborates that compositions containing both above and below 10 wt% of EA are equally within the scope of the invention as originally disclosed.

Therefore, original claim 5, as the only source for a 10 wt% minimum EA amount, cannot be considered as directly and unambiguously disclosing this as a **generally preferred** feature of the compositions of the invention.

- 1.4.2 The same considerations apply to the dependent claims 2 to 7 of the second auxiliary request - wherein the subject-matter of claim 1 corresponds to that defined in the originally filed claim 5 (see above points II and IX of the Facts and Submissions) - which define further embodiments of that composition, namely those characterized by the features disclosed in original claims 2 to 4 and 7 to 9.

- 1.5 It remains to be considered whether the subject-matter of claim 5 of the main request or of the dependent claims of the second auxiliary request can be directly and unambiguously derived from other portions of the explicit disclosure of the application as filed.
- 1.5.1 The subject-matter of claim 1 of the main request, i.e. detergent compositions containing at least 5 wt% of PAS, is disclosed in original claim 6 of the application as filed and in the corresponding portion in the original description at page 8, lines 5 to 6 (see above point 1.2). These preferred compositions comprise *inter alia* surfactant ingredients in the following amounts:
- (i) 15 to 50 wt% of the detergent composition is formed by a surfactant system consisting essentially of
 - (ii) at least some EA,
 - (iii) at least 5 wt% (based on the whole composition) of PAS,
 - (iv) 0 to 25 wt% (based on the surfactant system) of alkylbenzene sulphonate (hereinafter "LAS")
- and
- (v) possibly some further "non essential" ingredients, such as further anionic detergents as disclosed at page 8, lines 20 to 22.

Accordingly, for detergent compositions with only 5 wt% of PAS it is a logical necessity that the total amount of ingredients (ii), (iv) and (v) cannot possibly add up to less than 10 wt% or more than 45 wt% based on the whole composition (see above point), but **not** that the amount of EA must necessarily be 10 wt%, as it is covered by claim 5 of the main request.

Such a composition comprising 5 wt% of PAS and 10 wt% of EA (based on the whole composition) would instead be **objectively and necessarily** implied in the above compositions of original claim 6 only **if** there was a basis in the application as filed for simultaneously selecting from the various amount ranges in such claim:

- (a) **no more than 5 wt%** PAS,
- (b) an overall content of surfactants of **15 wt%**,
- (c) **no** LAS and
- (d) **no** further anionic surfactant.

However, neither the other portions of the description nor common general knowledge provide any basis for such a combination of features.

On the contrary, the application as filed states at page 8, lines 20 to 26, that minor amounts of other anionic surfactants may possibly be present, provided that the surfactant system contains no more than 25 wt% of LAS and the compositions according to all of the six examples illustrating the invention indeed contain a further anionic surfactant, namely fatty acid soap, in

amount of about 1 to 2 wt%. Consequently none of them meets the requirement to comprise only of PAS and EA as surfactants.

Further, at page 7, lines 30 to 31, it is disclosed that the EA may be the only surfactant and at page 8, lines 1 to 5 and in the examples, that PAS and EA may be present in particular amounts or ranges of amounts. However, none of these combinations of amounts leads directly to a composition containing 5 wt% of PAS and 10 wt% of EA (based on the whole composition), let alone to compositions where no other surfactant is present.

1.5.2 The application as filed also does not disclose any relationship between the amount of EA and any of the other features disclosed in the dependent claims of the second auxiliary request. It does not, therefore, provide any disclosure of the combinations of features given in these claims.

1.5.3 Thus the Board concludes that it is not possible to directly and unambiguously derive from the application as filed the specific combination of features defined in claim 5 of the main request and in claims 2 to 7 of the second auxiliary request.

1.6 As the incorporation into the description of the patent in suit of features disclosed only in the claims does not change the content of the application as filed, the submissions of Appellants II (see above point XII of the Facts and Submissions) as to the omitted adaptation of the patent description during the patent examination before the EPO cannot possibly be of any relevance for

establishing the content of the original patent application and, thus, for the allowability of the amendments under Article 123(2) EPC.

The regret of Appellants II for not having already carried out such amendment seems to imply the erroneous assumption that it would have been possible before the patent grant to add to the description of the patent application an explicit definition as to the fact that in general the compositions of the invention might preferably comprise at least 10 wt% of EA.

The Board stresses instead that also during the substantive examination of the patent application before the EPO the description can only be amended in accordance with the provisions of Article 123(2) EPC. Thus, while it would have been possible to introduce in the patent description a disclosure of **exactly** the same embodiment disclosed in original claim 5, it would have infringed the requirements of Article 123(2) EPC to add to the description, for instance, a definition of such feature whose wording and/or position in the text of the description would have explicitly or implicitly given a broader meaning to the subject-matter of original claim 5 so as to cover further embodiments not originally disclosed.

- 1.7 The Board thus concludes that claim 5 of the main request and claims 2 to 7 of the second auxiliary encompass subject-matter not contained in the original patent application. Therefore, the main and the second auxiliary request of the Appellants II do not comply with the requirements of Article 123(2) EPC and, hence, are not allowable.

2. *Admissibility of the first and third auxiliary requests in view of Articles 84, 123(2) and (3) EPC*

The Board is satisfied that the amendments made to the originally filed and granted claims which result in the claims of these requests do not introduce any lack of clarity (Article 84 EPC) or violate the requirements of Articles 123(2) and (3) EPC. Since this has not been disputed by the parties no further reason needs to be given.

3. *Novelty of the first and of the third auxiliary requests (Articles 52(1) and 54 EPC)*

3.1 Even though Appellants I and III conceded that none of the detergent compositions explicitly disclosed in the available citations had the combination of features as claimed in the first and third auxiliary requests, they still maintained that the compositions according to these requests were not novel since the person skilled in the art would seriously contemplate:

- to reduce in example 6 of Document (4) the amount of environmentally undesirable alkylbenzene sulphonate (hereinafter "LAS") by using the only generally recognised possible alternative thereto, i.e. PAS, and
- to supplement the incomplete disclosure as to the kind of the nonionic surfactant used in example VIII in Document (5) with the more detailed disclosure given in the other examples,

wherein the most used nonionic was EA having an average degree of ethoxylation of 7.

3.2 These arguments are not convincing for the following reasons.

The Appellants I and III have not identified any portion of the content of Document (4) from which the person skilled in the art could have unambiguously and directly derived the instruction to possibly substitute LAS by more environment friendly ingredients such as PAS. The fact that there may exist knowledge in the art as to obvious measures for overcoming a particular disadvantage is not relevant for establishing the extent of disclosure in a prior art document which does not even implicitly refer to the existence of either such disadvantage or such measure.

The Appellants I and III have also not provided a reason as to why the person skilled in the art would not have considered that the unspecified nonionic surfactant actually used in example VIII of Document (5) might as well be the EA mixture with a degree of ethoxylation lower than 5,2 used in example V or any of the other nonionic surfactants of the list on page 6, lines 41 to 48, of this prior art document, which do not fall under the definition of EA in the patent in suit. Therefore, it cannot be unambiguously derived from Document (5) that the nonionic surfactant used in example VIII would necessarily satisfy the requirement given in the claims of the first and third auxiliary requests.

3.3 The Board is also satisfied that none of the other available citations discloses directly and unambiguously compositions which are according to any of the claims of the first auxiliary request or according to the only claim of the third auxiliary request.

Since this has not been disputed by the Appellants I and III no further reason need to be given.

The Board thus concludes that the subject-matter of the claims of these requests is novel and hence complies with the requirements of Articles 52(1) and 54 EPC.

4. *Inventive step concerning the subject-matter of claim 1 of the first auxiliary request (Articles 52(1) and 56 EPC)*

4.1 Claim 1 of this request defines a high bulk density particulate detergent composition comprising an alkali aluminosilicate builder, citric acid salts and, as surfactants, unspecified amounts of EA with a given degree of ethoxylation, at least 5 wt% of PAS and optionally a limited amount of LAS.

4.2 The technical problem addressed in the patent in suit (see page 2, lines 20 to 27 and 37 to 38) is that of improving the **delivery** of the active ingredients of the high bulk density powder detergent to the wash in a washing machine and, in particular, not only the **dispensing** to the washing liquor of the powder initially placed in the **dispenser drawer** of the machine or in a **dispensing device** located by the user in the

machine drum, but also the **dissolution** of the high bulk density powder in the washing liquor.

The solution of this technical problem is stated to consist in the use of a nonionic surfactant having a higher degree of ethoxylation, provided that a citric acid salt is also present (page 2, lines 26 to 27).

- 4.3 However, claim 1 of this request does not require any minimum amount for the EA content and encompasses compositions with a very low amount of EA. As was explicitly admitted by the Appellants II, these compositions would reasonably not have the superior delivery properties aimed at in the patent in suit. Therefore, the technical problem defined in the patent in suit cannot be considered relevant for the whole range of compositions of this claim.
- 4.4 The Appellants II argued that the person skilled in the art would not consider compositions with a very low amount of EA encompassed in the subject-matter of such claim, since the compositions actually claimed were clearly only those having the desired improved properties easily identifiable by experimental tests. However, the Board observes that the Appellants II have not disputed the submissions of Appellants I and III that advantageous compositions containing only a few percentages of EA were known in the art (e.g. to improve particle agglomeration) and that the patent did not identify which minimum level(s) of which delivery property(ies) is to be found in which specific test method(s) in order for a composition to be considered encompassed in present claim 1.

For these reasons it is credible neither that the person skilled in the art would not reasonably consider any compositions containing very low amounts of EA, nor that the claimed subject-matter might be implicitly restricted in terms of unspecified delivery properties to be achieved.

- 4.5 Therefore the subject-matter of claim 1 encompasses compositions for which the improved property aimed at in the patent is undisputedly not expected to be obtainable and the technical problem reasonably solved by all the compositions according to claim 1 of the first auxiliary request can only be that of providing further high bulk density detergent compositions, alternative to those disclosed in the prior art.
- 4.6 In view of this technical problem, those detergent powders of the prior art whose bulk density and chemical structure is most similar to that of the presently claimed compositions offer themselves as a reasonable starting point for the assessment of inventive step.
- 4.7 During the oral proceedings before the Board, both Appellants I and II attempted to rely on Document (11) as a suitable starting point for the inventive step assessment. They both conceded, however, to be well aware already from the opposition proceedings that this citation was published on 2 June 1993, i.e. after the filing date of 26 May 1993 of the patent application GB 9310823 from which the patent in suit claimed priority, and thus, that Document (11) would represent state of the art relevant for Article 56 EPC only in respect of possibly existing portions of the claimed subject-

matter which were not entitled to claim such priority. The Appellants I and II were not capable of identifying any portion of the subject matter of the claims which was in their opinion not entitled to such priority date, and admitted that without such preliminary information the validity and the relevance of their argumentations was not assessable by the other party and by the Board at least during the oral proceedings. Therefore, the Board concludes that the submissions in respect of inventive step in view of Document (11) have to be disregarded.

4.8 The Appellants I and III relied on Document (4) as the closest prior art, and in particular on example 6 from which present claim 1 differs exclusively in that the amount of PAS must represent at least 5 wt% of the claimed composition, while in the prior art example it constitutes 3.75 wt% of the dried composition. The Board, therefore, agrees that Document (4) is a suitable starting point for the assessment of inventive step.

Document (4) defines no specific amount range for PAS, but discloses in other examples high bulk density compositions containing PAS in amounts well above 5 wt% (see e.g. examples 7 and 8).

Therefore, even in the absence of any explicit instruction in Document (4) or in other citations as to the possibility of increasing in example 6 of Document (4) the amount of PAS from 3.75 wt% to at least 5 wt%, this modification represents one of those variations which the person skilled in the art would regard as obviously suitable for solving the existing technical

problem of providing further high bulk density detergent compositions.

Hence it requires no inventive skill to solve this technical problem by increasing the relative amount of the PAS ingredient, thereby arriving at compositions according to present claim 1.

The Board comes therefore to the conclusion that the compositions of claim 1 of the first auxiliary request of the Appellants II are not based on an inventive step and, therefore, that this request does not comply with the requirements of Articles 52(1) and 56 EPC and is not allowable.

5. *Inventive step concerning the subject-matter of the claim of the third auxiliary request (Articles 52(1) and 56 EPC)*

5.1 The only claim in this request defines a high bulk density particulate detergent composition comprising an alkali aluminosilicate builder, citric acid salts and, as surfactants, an unspecified amount of PAS, at least 10 wt% of EA with a given degree of ethoxylation of and optionally a limited amount of LAS (i.e. substantially the same subject-matter of original claim 5).

Due to the minimum required amount of 10 wt% of EA this claim does not embrace compositions which were found at point 4.3 above undisputedly incapable of solving the technical problem addressed in the patent in suit of improving the **delivery** properties of the high bulk density detergent powder (point 4.2 above).

5.2 Appellants I and III argued that the experimental evidence disclosed in the patent in suit was not realistic or not reliable to credibly demonstrate that the delivery properties aimed at in the patent in suit had actually been obtained by the claimed compositions.

They submitted that the data in Anderson I and II demonstrated instead that the claimed compositions provided no improved delivery properties.

Moreover, they considered that in the last filed tests the comparison between example I (according to the present claim) and example V (not encompassed in this claim) demonstrated that the compositions according to this request actually had worse dissolution properties than similar compositions with less than 10 wt% of EA.

5.3 The Board finds convincing the objections of Appellants I and III that part of the experimental evidence in the patent in suit is either not understandable (see e.g. in Table 3 the value of 0.4 for example 1 for the dissolution test method 3 disclosed at page 7, lines 17 to 31, where the minimum score value for such test is 1) or disclosed so vaguely, that it is not evident whether the inventors considered the observed delivery properties actually superior to those of the prior art or only comparable thereto (see e.g. example 2, which does not provide any detail of the conditions used for the machine drawer delivery test and does not contain any explicit or implicit reference to the level of delivery achieved in the prior art).

However, the parties have neither maintained that the detergent composition of comparative example 1A of the patent in suit - containing an EA mixture with a degree of ethoxylation below 5.2, i.e. 4.77 (see Table 1) - was not representative for the prior art compositions and their level of delivery properties, nor argued that the dispensing tests 1 and 2 of Table 3 were insufficiently disclosed.

The only objection of Appellants I and III to the relevance of these tests relies on the relatively warm washing temperature (of 20°C, see page 6, line 49 and page 7, line 12) used therein. It is however undisputed that this temperature is actually used for washing at least in some places and/or during some seasons. Thus, even in the case that 20°C may be not very frequent in most of Europe, this would not sufficiently justify disregarding the technical effects shown in these tests as irrelevant.

Hence, the Board finds no reason to deviate from the findings in the decision under appeal that tests 1 and 2 of the patent in suit credibly demonstrate that the claimed compositions as represented by example 1 at least achieved an improvement in **dispensing from dispensing device** in the washing water vis-à-vis the prior art represented in comparative example 1A.

The Board wishes to stress that this technical problem is part of the more ambitious technical problem defined in the patent in suit (see above point 4.2) and that the relevant evidence demonstrating its solution is reported in Table 3 of the patent. Therefore, to consider such problem and such evidence in the

assessment of inventive step cannot possibly amount to a surprise for Appellants I and III (see above point XI of the Facts and Submissions).

- 5.4 The Board sees also no reason to deviate from the evaluation of the experimental data of Anderson I given in the decision under appeal (see above point VI of the Facts and Submissions). These tests were carried out under very different conditions, in particular at washing temperatures of 5 and 8°C. However, no evidence has been provided to show that these temperatures were more realistic than the temperature of 20°C used in the tests 1 and 2 of the patent in suit.

The data in Anderson II instead suffer from a lack of disclosure, which does not allow determining their reliability. As admitted by Appellant I, at least one of the amount(s) of the other ingredients must have been changed in order to produce an example according to the invention which differs from a reproduction of example 6 of Document (4) only in that it contains a larger amount of EA. The amount of which other ingredient has been changed is, however, not known. Thus it is not possible to establish whether or not the reported results are derived from a fair comparison.

Finally, the last filed tests referred to experimental data only with respect to the property measured in the dissolution test 3 of example 1 of the patent in suit, and not to those of the dispensing tests 1 and 2 which have been found convincing above at point 5.3. Moreover, the examples in the last filed tests are different embodiments of the compositions initially claimed in the patent in suit and none of the parties has

suggested that they could represent prior art compositions. Therefore, beside the fact that they do not refer to the same kind of tests considered reliable at point 5.3 above, these data do not imply that certain presently claimed compositions must necessarily have delivery properties inferior to those of the prior art, but only that the presently claimed compositions would not necessarily reach the same level of improved delivery properties than other (now no longer claimed) compositions disclosed in the patent in suit.

Therefore, the data in Anderson I and II as well as in the last filed tests must be disregarded.

- 5.5 Consequently, the Board concludes that in the absence of clear and convincing evidence to the contrary, the data in example 1 of the patent in suit are sufficient to credibly support the superior delivery properties of the presently claimed high bulk density detergent compositions vis-à-vis the prior art, at least in respect of powder dispensing from dispensing devices. In other words, the technical problem credibly solved by the claimed subject-matter is that of **providing particulate high bulk density detergent compositions which are more easily dispensed from dispenser devices to be placed in the washing machine drum.**

- 5.6 Appellants I and III have submitted that any of Documents (4), (5) and (12) represented a reasonable starting point for the assessment of inventive step.

5.7 However, Document (5) is totally silent as to the delivery problems of high bulk density detergent compositions. Therefore, there was no reason for the person skilled in the art to consider this document in order to find a solution to the technical problem set out in the patent in suit.

5.8 The Appellant I alleged that Document (12) was particularly relevant since it dealt with the problem of improving particle dispersibility (see e.g. the abstract of this citation and column 1, lines 17 to 41).

The Board observes in this respect that the person skilled in the art is aware that zeolites (i.e. the alkali metal aluminosilicate component of high bulk density detergents), which are a major component in the compositions of any of Documents (4), (12) and the patent in suit (see the examples), are insoluble and that, therefore, the term "*particle dispersion*" used in Document (12) corresponds to the term "*product solubility*" mentioned in Document (4) (see last line of the description of this citation) as well as to the term "*dissolution of the powder*" mentioned in the patent in suit (see page 2, lines 23 to 24).

Therefore, Documents (4) and (12) address the problem of powder dissolution, i.e. the same part of the broader technical problem addressed in the patent in suit.

However, Document (4) discloses **fully formulated** high bulk density detergent compositions, while Document (12) defines only an **adjuvant** for detergent compositions, i.e. a compositions which is intended to be further

combined with other (undetermined) detergent compositions in order to "upgrade" them (see claim 1, column 1, lines 42 to 48 and column 4, lines 57 to 60).

Moreover, the claimed compositions differ:

- from those of Document (4) **only** in that they contain at least 10 wt% of EA (the maximum amount of EA disclosed in this citation is 7,5 wt%, see example 6),
- from those of Document (12), in as far as they are of high bulk density (see example 1), in the mandatory presence of PAS **and** in the lower degree of ethoxylation of the EA.

The Board concludes therefore that the fully formulated detergent powders disclosed in Document (4) represent a more reasonable starting point for the assessment of inventive step than the adjuvant disclosed in Document (12).

5.9 Neither Appellant I nor Appellant III has provided any convincing evidence (see above point 5.4) that the improved dispensing properties of the claimed compositions were not superior to those of the compositions disclosed in any of the citations mentioned in these proceedings. Therefore, the Board has no reason to doubt that the claimed subject-matter has solved at least the above identified part of the technical problem set out in the patent in suit (see above point 5.5) also vis-à-vis the prior art disclosed in Document (4).

5.10 In view of the only difference (see above point 5.7) between the particulate detergent composition according to the claim of the third auxiliary request and that disclosed in Document (4), the assessment of inventive step concerning the claimed subject-matter boils down to the question as to whether the person skilled in the art would have increased the EA content in the particulate composition disclosed in Document (4), in the reasonable expectation that such modification would have increased the powder dispensing from a dispensing device to be placed in the machine drum.

5.11 However, neither Document (4) nor any of the other citations mentioned in these proceedings teach the skilled person that increasing the amount of EA is likely to improve the dispensing behaviour of high bulk density detergent compositions. Therefore, it is not obvious for the person skilled in the art of detergent formulations that the powder dispensing from a dispensing device of the high bulk density detergent particulates of Document (4) may be improved by increasing the relative amount of EA.

5.12 The Board wishes to stress that the claimed subject-matter would not be obvious even if one assumes, for the sake of argument, that the person skilled in the art could have attempted to solve the relevant technical problem (see above point 5.5) starting from the prior art disclosed in Document (12).

Also with regard to the prior art disclosed in this citation:

- the Board has no reason to doubt that the claimed subject-matter has solved at least the above identified part of the technical problem set out in the patent in suit (see above point 5.5) and
- the person skilled in the art finds no reason either in this document or in the other citations mentioned in these proceedings which would have suggested to modify the high bulk compositions disclosed in example 1 of Document (12) by decreasing the degree ethoxylation of the EA and by adding PAS thereto, so as to arrive at composition according to the claim of the present third auxiliary request (see the differences indicated above at point 5.8) in order to improve the dispensability of this powder from a dispensing device.

5.13 Thus, the subject matter of the only claim of the third auxiliary request of the Appellants II is not rendered obvious by the cited prior art. Therefore, the Board concludes that it is based on an inventive step and, hence, complies also with the requirements of Articles 52(1) and 56 EPC.

6. Since the claim of the third auxiliary request complies with the requirements of the EPC, there is no need to discuss the fourth to sixth auxiliary requests.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the third auxiliary request with its single claim filed with the letter of 16 May 2003 and of the description to be adapted.

The Registrar:

The Chairman:

G. Rauh

G. Dischinger-Hoeppler