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**Datasheet for the decision  
of 4 July 2018**

**Case Number:** T 0256/15 - 3.3.06

**Application Number:** 07794543.4

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**Language of the proceedings:** EN

**Title of invention:**  
COMPACT FLUID LAUNDRY DETERGENT COMPOSITION

**Patent Proprietor:**  
The Procter & Gamble Company

**Opponents:**  
UNILEVER PLC / UNILEVER NV  
Henkel AG & Co. KGaA

**Headword:**  
COMPACT FLUID LAUNDRY DETERGENT COMPOSITION/Procter & Gamble

**Relevant legal provisions:**  
EPC Art. 56

**Keyword:**  
Inventive step (all requests) - obvious alternative

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**

**Boards of Appeal**

**Chambres de recours**

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Case Number: T 0256/15 - 3.3.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.3.06**  
**of 4 July 2018**

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**Decision under appeal:** **Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
11 December 2014 concerning maintenance of the  
European Patent No. 2024477 in amended form.**

**Composition of the Board:**

**Chairman**            L. Li Voti  
**Members:**            P. Ammendola  
                             R. Cramer

## Summary of Facts and Submissions

- I. The present appeal by Opponents 1 and 2 (hereinafter **Appellants I** and **II**) is against the interlocutory decision of the Opposition Division concerning maintenance of European Patent No. 2 024 477 in amended form.
- II. The grant of this patent had been opposed on the grounds of, *inter alia*, Article 100(a) because of lack of inventive step (Article 56 EPC) of the **compact fluid laundry detergent composition** (hereinafter also indicated as **CFLD composition**) defined in granted claim 1.
- III. The following document was cited, *inter alia*, during the opposition proceedings:

D5 = WO 96/13566 A1.

The Patent Proprietor (hereinafter **Respondent**) filed with letter of 12 September 2014 five sets of amended claims labelled as Main Request and First to Fourth Auxiliary Requests.

- IV. In these claim requests:

Claim 1 of the **Main Request** reads:

"1. A compact fluid laundry detergent composition having good economics, good cleaning and positive consumer value impression, comprising:  
(i) at least 10%, by weight of the composition, of surfactant selected from anionic surfactants, nonionic surfactants, soap and mixtures thereof;

(ii) up to 30%, by weight of the composition, of water, non-aminofunctional solvent, or mixtures thereof;  
(iii) from 5% to 20%, by weight of the composition, of a performance additive selected from chelants, soil suspending polymers, enzymes and mixtures thereof;  
wherein said compact fluid laundry detergent composition comprises : a weight ratio of said anionic surfactant to said nonionic surfactant of at least 1.5:1, said anionic surfactant comprises from 15% to 40% by weight of the composition; and said soap comprises from 5% to 30%, by weight of the composition; and wherein the amount of water is from 10% to 25%, by weight of the composition."

Claim 1 of the First Auxiliary Request only differs from claim 1 of the Main Request in the final wording (differences are made apparent):

"...; and wherein the amount of water is from 10% to 25%, by weight of the composition; **and wherein said anionic surfactant comprises from 5% to 40%, by weight of the composition, of alkylalkoxy sulfate surfactant.**"

Claim 1 of the Second Auxiliary Request only differs from claim 1 of the Main Request in the final wording (differences are made apparent):

"... ; and wherein the amount of water is from 10% to 25%, by weight of the composition, **and wherein the anionic surfactant comprises linear alkyl benzene sulfonate surfactant.**"

Claim 1 of the Third Auxiliary Request only differs from claim 1 of the Main Request in the final wording (differences are made apparent):

"... ; and wherein the amount of water is from 10% to 25%, by weight of the composition, **and wherein the composition contains less than 0.1%, by weight of the composition, of organic external structurant.**"

Claim 1 of the Fourth Auxiliary Request reads as follows (the differences with respect to claim 1 of the Main Request are made apparent):

"1. A compact fluid laundry detergent composition having good economics, good cleaning and positive consumer value impression, comprising:  
(i) ~~at least 10%, by weight of the composition, of surfactant selected from anionic surfactants, nonionic surfactants, soap and mixtures thereof;~~  
(ii) up to 30%, by weight of the composition, of water, non-aminofunctional solvent, or mixtures thereof;  
(iii) from 5% to 20%, by weight of the composition, of a performance additive selected from chelants, soil suspending polymers, enzymes and mixtures thereof;  
wherein said compact fluid laundry detergent composition comprises : a weight ratio of said anionic surfactant to said nonionic surfactant of ~~at least 1.5:1~~ **greater than 2:1 up to 5:1** , said anionic surfactant comprises from 15% to 40% by weight of the composition; and said soap comprises from 5% to 30%, by weight of the composition; and wherein the amount of water is from 10% to 25%, by weight of the composition, **wherein surfactant comprises from 40% to 60% by weight of the composition and wherein the composition comprises from 5% to 15% by weight of the composition, non-aminofunctional solvent.**"

V. In the decision under appeal the Opposition Division concluded that the subject-matter of claim 1 of the Main Request complied with the requirements of Article

56 EPC, *inter alia*, because its subject-matter was not obvious in view of the closest prior art disclosed in D5.

Since the patent in the amended form according to the Main Request was also found to comply with the other requirements of the EPC, the patent was maintained on the basis of the claims of the Main Request.

VI. In their respective statements of grounds of appeal both Appellants argued instead that the subject-matter of claim 1 of the Main Request did not comply with the requirements of Article 56 EPC because it was an obvious alternative to, *inter alia*, the prior art disclosed in D5.

VII. The Respondent with its reply to the statements of grounds of appeal filed, *inter alia*, fourteen sets of claims labelled as First to Fourteen Auxiliary Requests. In particular,

- the **First to Fourth Auxiliary Requests** are respectively identical to the requests with the same number already pending before the Opposition Division (for the versions of claim 1 therein see IV, *supra*);
- in the **Fifth Auxiliary Request** as well as in the **Tenth Auxiliary Request** claim 1 is identical to claim 1 of the Main Request found allowable in the decision under appeal (see IV, *supra*);
- in the **Sixth Auxiliary Request** as well as in the **Eleventh Auxiliary Request** claim 1 is identical to claim 1 of the First Auxiliary Request;
- in the **Seventh Auxiliary Request** as well as in the **Twelfth Auxiliary Request** claim 1 is identical to claim 1 of the Second Auxiliary Request;



- in the **Eighth Auxiliary Request** as well as in the **Thirteenth Auxiliary Request** claim 1 is identical to claim 1 of the Third Auxiliary Request;
- in the **Ninth Auxiliary Request** as well as in the **Fourteenth Auxiliary Request** claim 1 is identical to claim 1 of the Fourth Auxiliary Request.

VIII. Oral proceedings were held on 4 July 2018.

IX. The Appellants requested that the decision under appeal be set aside and that the European patent No. 2 024 477 be revoked.

The Respondent requested that the appeal be dismissed (Main Request), or alternatively that the decision under appeal be set aside and the patent be maintained in amended form on the basis of one of the sets of claims according to the First to Fourteenth Auxiliary Requests, all filed with the reply to the statements of grounds of appeal.

X. The submissions of the Appellants of relevance for the present decisions may be summarised as follows.

*Claim 1 of the Main Request, claim 1 of the First Auxiliary Request and claim 1 of the Third Auxiliary Request: lack of an inventive step*

Both Appellants considered a suitable starting point for the assessment of inventive step to be offered by the stable and concentrated liquid laundry detergents containing substantial amounts of high-foaming alkaline surfactants, soaps and non-ionic surfactants disclosed in the examples of D5, in which specific suds suppressors controlled the level of foaming (so as to avoid that the foam overflows the washing machine).

They referred in particular to Example I of the table on page 16 of this citation, in which the amount of water, although undisclosed, could only be expected to form most, if not substantially all, of the complement to 100 wt.% of said composition, attributed in the table on page 16 to "water and minors": i.e. in the Appellants' opinion in Example I the amount of water had to be about 15 wt.%.

The subject-matter of claim 1 of the Main Request, as well as that of the First Auxiliary Request and that of the Third Auxiliary Request only differed from this prior art in that these versions of claim 1 required the overall amount of water and **non-aminofunctional solvents** (hereinafter **NAF solvents**) to be "up to 30%, by weight of the composition". Instead, in Example I of D5 the water (about 15 wt.%) and NAF solvents (17.8 wt.% of propanediol and ethanol combined) added up to about 33 wt.% of the composition.

In the absence of any reason for expecting that this limitation rendered the CFLD compositions superior in any aspect to the prior art of departure, the only technical problem plausibly solved by the compositions defined in claim 1 of the Main Request, as well as that of the First Auxiliary Request and that of the Third Auxiliary Request was the provision of an alternative to this prior art, i.e. the provision of further CFLD compositions that (although possibly being even significantly less stable or more foaming than those of the prior art of departure) were still acceptable to the consumer.

A skilled person would arrive at each of these claimed compositions by simply reducing the amount of solvents present in the prior art of departure and adjusting

consequently the rest of the composition. Such modification of the prior art would be obvious for a skilled person only searching for further CFLD compositions acceptable to the consumer.

Hence, claim 1 of the Main Request, as well as that of the First Auxiliary Request and that of the Third Auxiliary Request contravened Article 56 EPC and none of these requests was allowable.

*Claim 1 of the Second Auxiliary Request: lack of an inventive step*

The subject-matter of this claim only differed from the closest prior art disclosed in Example I of D5 for the maximum amount of water and NAF solvents of up to 30 wt.% and for the additional presence of some undefined amounts of linear alkyl benzene sulfonate surfactant (LAS).

Given that:

- the reduction of the amount of solvents was an obvious solution to the posed problem of providing an alternative to the prior art for substantially the same reasons already indicated in the discussion of the Main Request;
- the patent in suit did not comprise any teaching as to the advantages possibly caused by the mandatory presence of LAS, let alone of possibly minimal amounts of LAS;
- D5, although focused on compositions (such as that of Example I) which contained no LAS, neither taught that the addition of LAS to these prior art compositions should be avoided nor indicated any reasons possibly implying that such addition could cause a disadvantage, and

- LAS were indisputably the most conventional class of anionic surfactants for laundry compositions, the addition of very small amounts of LAS to Example I of D5 would be another modification of the prior art that was obvious for a skilled person that only searched for further CFLD compositions acceptable to the consumer.

Hence, also the version of claim 1 of the Second Auxiliary Request lacked an inventive step and this request should be refused.

*Claim 1 of the Fourth Auxiliary Request: lack of an inventive step*

The subject-matter of this claim only differed from the closest prior art disclosed in Example I of D5 for the maximum amount of water and NAF solvents of up to 30 wt.% and for the requirement that the amount of NAF solvents had to form 5 to 15 wt.% of the composition.

Hence also to arrive at the subject-matter of this version of claim 1, similarly to the case of the subject-matter of claim 1 of the Main Request, it would have sufficed a reduction of the amounts of solvents used in the prior art of departure.

Therefore, also the subject-matter of claim 1 of the Fourth Auxiliary Request was an obvious solution to the posed problem of providing an alternative to the prior art, for substantially the same reasons already indicated in the discussion of the Main Request. Thus, also the Fourth Auxiliary Request should be refused on the grounds of Article 56 EPC.

*Fifth to Fourteenth Auxiliary Requests*

Appellant II considered these requests unjustifiably late filed and, thus, not admissible into the appeal proceedings. However, both Appellants also argued that the same reasons that rendered contrary to Article 56 EPC the versions of claim 1 according to the Main Request and the First to Fourth Auxiliary Requests would necessarily also justify refusing the identically worded versions of claim 1 respectively present in the Fifth to Fourteenth Auxiliary Requests.

- XI. The submissions of the Respondent of relevance for the present decisions may be summarised as follows.

*Claim 1 of the Main Request, claim 1 of the First Auxiliary Request and claim 1 of the Third Auxiliary Request: presence of an inventive step*

The Respondent too considered Example I of D5 to represent a suitable starting point for the assessment of inventive step and to reasonably contain about 15 wt.% of water.

Even though the only technical problem plausibly solved by the compositions defined in claim 1 of the Main Request, as well as that of the First Auxiliary Request and that of the Third Auxiliary Request, was the provision of further CFLD compositions acceptable to the consumer, the skilled person, without hindsight from the present invention, would not consider obvious to further reduce the amount of solvents present in the prior art of departure. Indeed, not only did D5 not teach the possibility of reducing the amount of solvents in Example I, which in fact represented the most concentrated composition described in D5, but, after having mentioned in the section devoted to the

background of the invention the difficulties existing in obtaining CFLD compositions containing reduced amounts of water and more organic solvents and being stable and possessing the foaming profile appropriate for machine washing, provided no instruction as to what was the minimum amount of solvents useful in the claimed concentrated liquid detergents. Therefore, this would indicate to the skilled reader that the authors of D5 had encountered difficulties in making any prediction as to the possibly very detrimental effect (e.g. on the stability of the composition) of any further reduction of solvents below the amounts thereof used in Example I.

Hence, D5 would lead its skilled reader away from further reducing the amount of solvents used in this Example.

In any case, the skilled person would expect that even limited modifications of the solvent system present in the CFLD compositions of the prior art could substantially worsen their stability.

Hence, claim 1 of the Main Request, as well as that of the First Auxiliary Request and that of the Third Auxiliary Request complied with Article 56 EPC.

*Claim 1 of the Second Auxiliary Request: presence of an inventive step*

In order to arrive at the subject-matter of this claim the skilled person searching for an alternative to Example I of D5, not only had to reduce amount of water and NAF solvents to 30 wt.% or less, but also had to add some LAS.

However, D5 exclusively focused (see claim 1) on "Nil-Las" compositions, i.e. compositions which contained no LAS such as that of Example I. This fact would necessarily lead the skilled person away from any addition of LAS to Example I of D5.

Thus, the subject-matter of claim 1 of the Second Auxiliary Request certainly involved an inventive step over the prior art.

*Claim 1 of the Fourth Auxiliary Request: presence of an inventive step*

In order to arrive at the subject-matter of this claim the skilled person searching for an alternative to Example I of D5, not only had to reduce amount of water and NAF solvents to 30 wt.% or less, but also had to specifically reduce the amount of NAF solvents to a range of 5 to 15 wt.%.

However, similarly to the case of the subject-matter of claim 1 of the Main Request, D5 would also lead its skilled reader away from further reducing the amount of solvents used in this Example so as to arrive at the subject-matter of claim 1 at issue. Moreover, even if the skilled person could envisage to modify the compositions of the prior art, he would expect to obtain a stable composition only within a very limited window of modification, leading him away from substantially reducing the amount of NAF solvents whilst increasing for example the amount of surfactants.

Hence, also the subject-matter of claim 1 of the Fourth Auxiliary Request involved an inventive step over the the prior art.

*Fifth to Fourteenth Auxiliary Requests*

The Respondent argued that the same reasons that rendered the versions of claim 1 of the Main Request and of the First to Fourth Auxiliary Requests inventive would necessarily also justify finding the identically worded versions of claim 1 respectively present in the Fifth to Fourteenth Auxiliary Requests inventive.

**Reasons for the Decision**

*Procedural issues*

1. The admissibility into the appeal proceedings of the Fifth to Fourteenth Auxiliary Requests has been disputed by Appellant II.

However, it has turned out unnecessary for the Board to come to a final decision on their admissibility because the Board's conclusions as to the lack of inventive step of the Main Request and First to Fourth Auxiliary Requests manifestly also implied that none of the Fifth to Fourteenth Auxiliary Requests is allowable (see point 7, *infra*).

*Main Request (patent in the amended form found allowable in the decision under appeal)*

2. Lack of inventive step (Article 56 EPC): claim 1

- 2.1 The purpose of the invention

The Board notes that the patent in suit:



- mentions as background of the invention, *inter alia*, that the level of foaming provided by CFLD compositions is important for the consumers and that it is difficult to formulate a CFLD composition having at the same time an increased amount of "*higher foaming surfactants such as anionic surfactants*" and fulfilling the other suitable laundry detergent requirements (such as stability upon storage, dispensability and a cleaning performance comparable to the already existing non compact or diluted laundry compositions, see paragraphs [0002], [0003] and [0005] of the patent description);
- describes, *inter alia*, in paragraphs [0001] and [0006] the (main aspect of the) patented invention as a compact (or concentrated, see [0002] and [0005])) fluid laundry detergent composition whose properties are described as "*good economics, good cleaning and positive consumer value impression*"

and

- acknowledges that the CFLD compositions of the invention are also suitable for machine washing (see e.g. [0196] to [0211]).

## 2.2 The closest prior art

- 2.2.1 It is common ground among the Parties that the compositions of D5 represent suitable starting points for the assessment of inventive step for claim 1 of the Main Request (for the text of this claim see IV, *supra*).

In addition, it is apparent (and common ground among the Parties) that:

- the concentrated liquid detergent composition of Example I of D5 is a CFLD composition (and thus, will also be referred to hereinafter as a CFLD composition) because it comprises a surfactant system (described in the table on page 16 of this citation) that is very similar to that of the subject-matter of claim 1 of the Main Request (see IV, *supra*),
- the amount of water present in this CFLD composition of the prior art, although undisclosed, can only reasonably be expected to constitute about 15 wt.% of the composition,  
and, thus,
- the overall amount therein of water and NAF solvents is implicitly disclosed to add up to about 33 wt.% (because in the same table the two NAF solvents used, i.e. propanediol and ethanol, form 17.8 wt.% of the composition).

Hence, it is also undisputed that the subject-matter of claim 1 under consideration differs from this example of the prior art exclusively in that the claim requires (as feature "(ii)", see IV, *supra*) the overall amount of water and NAF solvents to constitute "*up to 30% by weight of the composition*".

2.2.2 The Board, also considering the purpose of the patent invention identified above (see 2.1, *supra*) and that the detergent compositions exemplified in D5 - and, thus, also that of Example I - are also undisputedly (explicitly or implicitly) described in this citation

- to be stable (see in D5, page 1, first paragraph; page 2, first and fourth paragraphs and page 16, last paragraph)

and

- to produce controlled amounts of foam (as apparent from the fact that the detergent compositions of D5 are characterised by the presence of specific suds suppressor to avoid that, when these compositions are used in automatic laundry washing machine, the foam overflows the machine; as well as from the presence of substantial amounts (18 to 26% by weight) of anionic surfactants in all exemplified compositions: see in D5 e.g. page 4, fourth paragraph, as well as page 11, second paragraph, and page 16, table and last paragraph),

has no reason to come to a different conclusion.

Accordingly, the Board too finds that Example I of D5 represents the closest prior art.

## 2.3 The technical problem solved

- 2.3.1 It is apparent to the Board and common ground among the Parties that the whole patent (including the data in the experimental comparisons reported in Tables 1 and 2 in which the compositions compared differ one from the other in many compositional aspects) contains no explicit or implicit teachings possibly indicative that the CFLD compositions of the invention display some particularly advantageous properties, let alone increased sudsing, over the closest prior art. Thus, the only possible relevant properties remain those possibly embraced by the generic expressions "good

*economics, good cleaning and positive consumer value impression"* (see also in 2.1, *supra*).

- 2.3.2 The Board also holds that, in the absence of specific reasons to the contrary, the skilled reader of patents or patent applications directed to laundry detergent compositions normally presumes that the laundry compositions claimed therein must at least be acceptable to the consumers.

The Board sees therefore no reason why this should not also apply to the patent in suit and, thus, concurs with the Respondent that the properties specifically mentioned in the patent in suit (such as, in particular, the stability and dispensability acknowledged in paragraph [0003]) are general needs for detergent compositions; moreover the level of foaming, measured as height of the suds in Table 1 of the patent as well as the tested cleaning performance (see paragraphs [0211] to [0213]), can reasonably be presumed to at least be at levels sufficient for rendering the claimed CFLD compositions acceptable to the consumers.

- 2.3.3 However, the same presumption is manifestly also applicable to the disclosure of D5 (see also the properties of the CFLD compositions of D5 already identified at 2.2.2, *supra*).
- 2.3.4 Accordingly, the Board concludes that the technical problem objectively solved by the subject-matter of claim 1 over this prior art is just the provision of a further CFLD composition whose properties (e.g. in terms of stability, dispensability, foaming and cleaning performance) are acceptable to the consumers, i.e. the provision of an alternative to the prior art.

2.4 The solution

The solution to the posed problem defined in claim 1 at issue is a CFLD composition characterised by all the compositional features described in such claim (see IV, *supra*), including, in particular, the requirement "(ii)" that the overall amount of water and of any NAF solvents possibly present therein should constitute "up to 30%, by weight of the composition".

2.5 Obviousness of the solution

2.5.1 Considering that this requirement of claim 1 represents the only difference between the proposed solution and the prior art of departure (see 2.2.2, *supra*) the assessment of inventive step in the present case boils down to the question whether the skilled person, aiming at formulating further CFLD compositions acceptable to the consumers, would or not reduce the overall amount of water and NAF solvents of Example I of D5 so as to arrive at the subject-matter of claim 1 at issue.

2.5.2 In the Board's conviction, the skilled formulator of detergent compositions who is searching for an alternative to Example I thereof that is simply required to be acceptable to the consumers, would certainly also consider that, in the absence of any reasons to the contrary (in D5 or in the common general knowledge), **limited modifications** of Example I (e.g. in the amounts and/or the kind of ingredients) that are either embraced by the more general teaching of D5 itself or conventional in the field of laundry detergents can in general be expected not to be so detrimental to the relevant properties to render the resulting CFLD composition no longer acceptable to the

consumers. Thus, the skilled person would consider obvious to solve the posed technical problem by any of these limited modifications of Example I. One group of these limited modifications is manifestly any limited variation in the level of compaction such as, in particular, that obtainable by simply reducing to a limited extent the amount of solvents present in the prior art of departure.

2.5.3 The Board stresses that in D5 there is no explicit teaching allowing to further qualify (e.g. as the minimum required for sufficient stability) the amount of water and NAF solvents present in Example I.

2.5.4 The Respondent alleged however that the fact that D5 acknowledges (in the section on pages 1 and 2 entitled "BACKGROUND OF THE INVENTION") that it is difficult to formulate CFLD compositions having reduced amounts of water and comprising NAF solvents that are stable and have the appropriate foaming controlling profile but provides no instruction as to the possible minimum amounts of NAF solvent and water, would implicitly indicate difficulties in making any sound prediction as to the minimum amount of solvents that could be used without impairing e.g. the stability of the composition. Thus, and since Example I is the most concentrated composition disclosed in D5, the skilled reader of D5 would implicitly be taught away from further reducing the amounts of these solvents in this example.

The Board finds this allegation manifestly unconvincing, if only because it attributes a meaning to the absence of any indication in D5 as to the minimum amounts of NAF solvent and water that is merely speculative. The absence of such indication could

indeed have several other equally plausible explanations.

2.5.5 The Board concludes therefore, contrary to the Respondent's line of reasoning, that the skilled reader of D5 finds neither in this citation nor apparently in the common general knowledge, any particular reason for expecting e.g. unacceptable stability problems if the amounts of solvents used in Example I of D5, i.e. if the level of compaction of this composition, were varied to a limited extent in order to render it more concentrated.

2.5.6 Hence, in the conviction of the Board, a skilled person would also expect, *inter alia*, that limited increments of compaction of the composition disclosed in Example I of D5 (i.e. limited proportional reduction of the amounts of water and of the NAF solvents with corresponding proportional increments of the amounts of all the other i.e. the non-solvent, ingredients present in this example) would result in further CFLD compositions having a level of e.g. stability that (although possibly comparable to, worse or better than that of Example I) can reasonably be expected to at least be acceptable to the consumers.

2.5.7 Accordingly, to arrive at the presently claimed alternative to the prior art of departure it is sufficient for the skilled person to just arbitrarily select, without exercise of any inventive skill, among the modifications of the prior that may be expected to still result in CFLD compositions acceptable to the consumers, that of increasing the compaction of Example I of D5 to a limited extent, i.e. that of proportionally reducing the amounts of water and NAF solvents used from a total of 33 wt.% to 30 wt.% and

correspondingly proportionally increasing the amounts of all the other ingredients so that they add up to 70 wt.% (instead of to 67 wt.% as in Example I). In this way a composition having all features of claim 1 at issue would be obtained.

2.5.8 The Board therefore comes to the conclusion that the CFLD composition of claim 1 at issue results from obvious modifications of the prior art and, thus, represents an obvious alternative thereto.

2.6 In the Board's judgement based on the above considerations, the subject-matter of claim 1 of the Main Request is obvious in view of D5 (Article 56 EPC) and this request cannot be allowed.

#### *First Auxiliary Request*

3. Lack of inventive step (Article 56 EPC): claim 1

3.1 This claim (text at IV, *supra*) only differs from claim 1 of the Main Request (see IV, *supra*) in that the former further specifies that alkylalkoxy sulfate surfactant must constitute 5% to 40% by weight of the composition. It is apparent that example I of D5 already contains 19% by weight of such a surfactant.

3.2 Accordingly, the subject-matter of claim 1 of the First Auxiliary Request also lacks an inventive step over D5 (Article 56 EPC) for the same reasons given above at 2.5.1 to 2.5.8 in respect of the subject-matter of claim 1 of the Main Request.

#### *Second Auxiliary Request*

4. Lack of inventive step (Article 56 EPC): claim 1



4.1 The closest prior art and the technical problem solved

4.1.1 The Board notes that this claim (see IV, *supra*) only differs from claim 1 of the Main Request in that the former requires the presence of some "*linear alkyl benzene sulfonate*" (LAS) in the anionic surfactant.

4.1.2 However, it is also apparent to the Board that the patent in suit does not even allege, let aside make it plausible, that the additional presence of some (i.e. even just a detectable amount of) LAS renders the presently claimed CFLD composition particularly advantageous.

4.1.3 Accordingly, the Board finds, for substantially the same reasons given above for the same findings in view of claim 1 of the Main Request (see points 2.2 and 2.3, *supra*) that:

- Example I of D5 represents a suitable starting point also for the assessment of inventive step of the subject-matter of claim 1 of the Second Auxiliary Request,

and

- also the technical problem solved by the latter is just the provision of a further CFLD composition acceptable to the consumers.

These findings are also undisputed by the Parties.

4.2 Obviousness of the solution

- 4.2.1 Example I of D5 comprises no LAS (similarly to all other compositions disclosed in this citation, see e.g. the first paragraph on page 3 and claim 1 of D5 where the term "Nil-Las" is used to describe the absence of LAS in the compositions of this prior art) and about 33 wt.% solvents.
- 4.2.2 It is undisputed that the subject-matter of claim 1 of the Second Auxiliary Request only differs from this prior art in that the maximum amount of water and NAF solvents must be 30 wt.% of the composition and for the presence of unspecified amounts (i.e. possibly even very small amounts) of LAS.
- 4.2.3 Accordingly, the assessment of inventive step in the present case boils down to the question whether the skilled person, aiming at formulating further CFLD compositions acceptable to the consumers, would or not reduce the overall amount of water and NAF solvent and add some LAS in the CFLD composition of Example I of D5 so as to arrive at the subject-matter of claim 1 at issue.
- 4.2.4 It is apparent that the same reasons indicated at 2.5.1 to 2.5.8, *supra* (that have led the Board to the conclusion that a limited increment of compaction in Example I of D5 represents an obvious modification of the prior art departure) also apply to the presently claimed subject-matter.
- 4.2.5 The Board, considering the fact that LAS is undisputedly the class of anionic surfactants most used in the field of the laundry detergents, comes to the conclusion that no inventive step can possibly be required to the skilled person - already considering the obvious possibility of solving the posed technical

problem by a limited increment of concentration in the CFLD composition of departure - for also adding some arbitrarily very small amount of LAS to the other anionic surfactants already present in Example I of D5.

- 4.2.6 The Respondent's argument that the fact that D5 describes "Nil-Las" compositions (see 4.2.1, *supra*) would amount to an implicit teaching to the skilled person not to add any, even very small, amount of LAS to this prior art, is rejected by the Board for the following reason.

On its face value, the explicit indication in D5 that the invention described in this citation relates to laundry compositions that do not contain (as a limitation) any LAS is only a definition of those compositions.

Also, it is undisputed that there is no clear and unambiguous explanation in D5 why LAS should not be used.

Accordingly, the Board concludes that the fact that the compositions disclosed in D5 are "Nil-Las" is no instruction to avoid the addition of LAS therein.

Hence, for the Board, the skilled reader of D5 would not be led away from trying a trivial further modification of the prior art of departure (in addition to the limited increment of compaction already found obvious by the Board for the reasons given above), i.e. of adding thereto very small amounts of the most conventional anionic surfactant known, i.e. LAS.

- 4.3 The Board therefore comes to the conclusion that also the CFLD composition of claim 1 at stake results from obvious modifications of the prior art and, thus, represents an obvious alternative thereto.
- 4.4 In the Board's judgement, based on the above considerations, also the subject-matter of claim 1 of the Second Auxiliary Request is obvious in view of D5 (Article 56 EPC) and this request cannot be allowed.

*Third Auxiliary Request*

5. Lack of inventive step (Article 56 EPC): claim 1
- 5.1 This claim only differs from claim 1 of the Main Request (see IV, *supra*) in that the former additionally imposes an upper limit of less than 0.1%, by weight of the composition, for any organic external structurant possibly present in the composition.
- 5.2 It is apparent that example I of D5 already does not contain any organic external structurant.
- 5.3 Accordingly, in the judgement of the Board the subject-matter of claim 1 of the Third Auxiliary Request also lacks an inventive step over D5 (Article 56 EPC) for the same reasons given above at 2.5.1 to 2.5.8 in respect of the subject-matter of claim 1 of the Main Request.

*Fourth Auxiliary Request*

6. Lack of inventive step (Article 56 EPC): claim 1
- 6.1 The closest prior art and the technical problem solved

- 6.1.1 The Board notes that this claim (see IV, *supra*) only differs from claim 1 of the Main Request in that the former requires that
- the weight ratio of anionic surfactant to nonionic surfactant must be greater than 2:1 up to 5:1;
  - the surfactants must form from 40% to 60% by weight of the composition and
  - the amount of NAF solvents must constitute between 5 and 15 wt.% of the composition.

However, it is also apparent to the Board that the patent in suit does not even allege, let aside make it plausible, that these three features render the presently claimed CFLD composition particularly advantageous.

- 6.1.2 Accordingly, the Board finds, for substantially the same reasons given above in view of claim 1 of the Main Request (see points 2.2 and 2.3, *supra*) that:

- Example I of D5 represents a suitable starting point also for the assessment of inventive step of the subject-matter of claim 1 of the Second Auxiliary Request,

and

- also the technical problem solved by this latter is just the provision of a further CFLD composition acceptable to the consumers.

- 6.1.3 These findings are also undisputed by the Parties.

- 6.2 The solution

The solution to the posed problem offered by the subject-matter of claim 1 at issue (see IV, *supra*) is a CFLD composition characterised, *inter alia*, in that the overall amount of water and NAF solvents must be "up to 30% by weight of the composition" and in the additionally required presence of "from 5% to 15% by weight of the composition" of NAF solvents.

### 6.3 Obviousness of the solution

6.3.1 The Board stresses that in Example I of D5 the overall amount of surfactants adds up to 47 wt.% of the composition and the weight ratio between the anionic surfactants and the non-ionic surfactants is 2.36 (see the table on page 16 of D5). Therefore, these features are in accordance with claim 1 at issue. This is undisputed.

6.3.2 Hence, it is also undisputed that the subject-matter of claim 1 of the Fourth Auxiliary Request differs from this prior art only in that the maximum amount of water and NAF solvents must be 30 wt.% of the composition and in that the amount of NAF solvents must be between 5 and 15 wt.% of the composition.

6.3.3 Accordingly, the assessment of inventive step in the present case boils down to the question whether the skilled person, aiming at formulating further CFLD compositions acceptable to the consumers, would or not reduce the amount of water and NAF solvent in the Example I of D5 so as to arrive at the subject-matter of claim 1 at issue.

6.3.4 It is apparent that the same reasons indicated at 2.5.1 to 2.5.8, *supra*, also apply to the presently claimed subject-matter.

Indeed, a limited increment of the concentration of the non-solvent ingredients in Example I is sufficient for producing a more compacted composition wherein the amounts of the NAF solvents and water of 17.8% and about 15%, respectively, are proportionally reduced from a total of about 33% to 27 wt.%. This is apparent when considering that it amounts to a change of the amount ratio among [all the non-solvent ingredients] : [solvents] of from the value of about 2 in Example I (i.e. [67 parts per weight of non-solvent ingredients] : [33 parts per weight of the solvents]) to a value of about 2.8 (i.e. [77 parts per weight of non-solvent ingredients] : [27 parts per weight of the solvents]).

6.3.5 Moreover, such limited increment of compaction in the composition of Example I of D5 resulting in an overall content of water and NAF solvents proportionally reduced to 27 wt.%, also results necessarily in an amount of NAF solvents within the range of 5 and 15 wt. % and an amount of water between 10 and 15% wt% of the composition, the other amounts of anionic surfactants, soaps, total surfactant and ratio of anionic to nonionic surfactant remaining also within the limits of claim 1 at issue. For example, the total amount of surfactants (anionic, nonionic and soaps) would only increase from 47% to 51% by weight.

6.3.6 Hence, the skilled person can arrive at the presently claimed composition in an obvious manner by just arbitrarily selecting, without exercise of any inventive skill, among the modifications of the prior art that may be expected to still result in CFLD compositions acceptable to the consumers, that of increasing the concentration of Example I of D5 to a

limited extent, i.e. that of proportionally reducing the amounts of water and NAF solvents used from a total of 33 wt.% to 27 wt.% and correspondingly proportionally increasing the amounts of all the other ingredients so that they add up to 73 wt.% (instead of to 67 wt.% as in Example I).

6.3.7 If only for this consideration, the Board comes to the conclusion that the subject-matter of claim 1 of the Forth Auxiliary Request results from obvious modifications of the prior art and, thus, represents an obvious alternative thereto.

6.4 Therefore, in the Board's judgement, also the subject-matter of claim 1 of the Fourth Auxiliary Request is obvious in view of D5 (Article 56 EPC) and this request cannot be allowed either.

*Fifth to Fourteenth Auxiliary Requests.*

7. Each of the remaining Fifth to Fourteenth Auxiliary Requests comprises a version of claim 1 that is identical to one of the versions of claim 1 present either in the Main Request, or in the First, Second, Third or Fourth Auxiliary Requests (see VII, *supra*).

It is therefore apparent and undisputed among the Parties that the same reasons given above as to the lack of inventive step of the five versions of claim 1 according to the Main Request and the First to Fourth Auxiliary Requests, correspondingly apply to the identically worded versions of claim 1 in the Fifth to Fourteenth Auxiliary Requests.

7.1 Hence, none of these requests is allowable in view of Article 56 EPC. All the Appellant's remaining Fifth to



Fourteenth Auxiliary Requests must therefore be rejected.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



D. Magliano

L. Li Voti

Decision electronically authenticated