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**Datasheet for the decision
of 20 June 2012**

Case Number: T 2130/09 - 3.3.06
Application Number: 96906561.4
Publication Number: 819164
IPC: C11D 3/395, C11D 3/386,
C11D 3/08, C11D 3/10, C11D 3/39
Language of the proceedings: EN

Title of invention:

Detergent composition comprising source of hydrogen peroxide
and protease enzyme

Patent Proprietor:

THE PROCTER & GAMBLE COMPANY

Opponents:

UNILEVER N.V. / UNILEVER PLC
Henkel AG & Co. KGaA
Reckitt Benckiser (UK) Limited

Headword:

Detergent composition with peroxide and enzyme/PROCTER &
GAMBLE

Relevant legal provisions:

-

Keyword:

"Added subject-matter (Main Request) = yes"
"Inventive step (1st Auxiliary Request) = no - obvious
modification"
"Inventive step (2nd Auxiliary Request) = yes"

Decisions cited:

T 1414/08, T 0805/93

Catchword:

-



Case Number: T 2130/09 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 20 June 2012

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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
17 September 2009 concerning maintenance of
European patent No. 819164 in amended form.

Composition of the Board:

Chairman: P.-P. Bracke
Members: P. Ammendola
U. Tronser

Summary of Facts and Submissions

I. This appeal is from the interlocutory decision of the Opposition Division concerning the maintenance in amended form of European patent No. 0 819 164 relating to a detergent composition comprising a **hydrogen peroxide source** (hereinafter **HP source**), an **organic peroxyacid bleach precursor** (hereinafter **OPB precursor**) and a protease enzyme.

II. The patent application as originally filed contained twenty claims. Claims 1, 17, 18 and 20 thereof read as follows:

- "1. *A non-phosphate builder-containing detergent composition comprising a surfactant, and*
- a)- at least 0.5% by weight of a source of hydrogen peroxide,*
 - b)- from 0.01 % to 10% by weight of an organic peroxyacid bleach precursor,*
 - c)- from 0.001 % to 5% by weight of a proteolytic enzyme,*
 - d)- an alkalinity source having the capacity to deliver alkalinity to a wash solution as measured by the alkalinity release test described herein, such that the % weight NaOH equivalent of the composition is greater than 10.6% by weight of the composition, and*
- wherein the detergent composition has an Hydrogen peroxide Precursor Proteolytic enzyme (HPP) Index of at least 0.35 as defined by the formula*

$$HPP = \frac{(\%weight\ of\ precursor\ x\ \%weight\ of\ proteolytic\ enzyme)}{(\%AvO_2)^2}$$

wherein the %weight of proteolytic enzyme in the formulation is based on an enzyme activity of 13 knpu/g of the enzyme particle, and wherein the %AvO₂ is the total amount of available oxygen present in the composition."

"17. A detergent composition according to any one of Claims 1-16, wherein said bleach precursor is N,N-N',N' tetra acetyl ethylene diamine."

"18. A detergent composition according to Claims 17, wherein said bleach precursor is in amount from 0.5% to 2.5% by weight."

"20. A detergent composition according to any one of Claims 1-19, wherein said detergent composition further comprises builders and conventional deterative adjuncts."

Granted claim 1 differed from claim 1 as originally filed only in that the former contained an additional proviso excluding some prior art compositions.

III. The Opponents had sought revocation of the granted patent for, *inter alia*, added subject-matter, insufficient disclosure and lack of inventive step.

In particular, they raised inventive step objections on the basis of documents:

(16) WO 95/02671,

(17) WO 94/24240

and

(23) EP-A-0 634 479.

The final requests of the Patent Proprietor in the opposition proceedings were based on three sets of amended claims respectively labelled as Main Request, 1st and 2nd Auxiliary Requests.

IV. Claim 1 of this Main Request differs from claim 1 as originally filed (see above Section II) in that the passages in this latter reading:

"b)- from 0.01 % to 10% by weight of an organic peroxyacid bleach precursor,";

"Index of at least 0.35 as defined"

and

"present in the composition."

have been respectively amended into:

"b)- up to 10% by weight of an organic peroxyacid bleach precursor, including N,N-N',N' tetra acetyl ethylene diamine in an amount from 0.5% to 2.5% by weight, based on the weight of composition,"

"Index of at least 0.5 as defined"

and

*"present in the composition,
wherein the mean particle size of the components
of the composition is such that no more than 5% of
the particles are greater than 1.4mm in diameter
and not more than 5% of the particles are less
than 0.15mm in diameter;
and wherein the total amount of surfactant is in
the range 5 to 70%."*

Claim 1 of the 1st Auxiliary Request of the Patent Proprietor in the opposition proceedings differs from that of the Main Request cited above only in that the wording of this latter reading

"b)- up to 10% by weight of an organic peroxyacid bleach precursor, including N,N-N',N' tetra acetyl ethylene diamine in an amount from 0.5% to 2.5% by weight, based on the weight of composition,"

has been amended into:

"b)- organic peroxyacid bleach precursor which consists only of N,N-N',N' tetra acetyl ethylene diamine, in an amount from 0.5% to 2.5% by weight,".

Claim 1 of the 2nd Auxiliary Request of the Patent Proprietor in the opposition proceedings differs from that of the 1st Auxiliary Request cited above only in that the wording of this latter reading

"a)- at least 0.5% by weight of a source of hydrogen peroxide,"

has been amended into

"a)- from 4 to 10% by weight of a source of hydrogen peroxide, wherein the source of hydrogen peroxide consists of at least 90% by weight of a percarbonate having a particle size of at least 600 micrometers and coated with water-insoluble materials,".

Each of these requests filed at the hearing contained as last claim (i.e. claim 17 of the Main Request and of the 1st Auxiliary Request and claim 14 of the 2nd Auxiliary Requests) a renumbered version of claim 20 as originally filed (see above Section II).

- V. In the decision under appeal, posted 17 September 2009, the Opposition Division found, *inter alia*, that the patented invention was sufficiently disclosed because the patent-in-suit gave sufficient information concerning the nature of the components "a)" to "d)" and the amounts thereof. Despite the fact that the opposed patent remained silent about a (specific) method for determining AvO_2 levels in the composition, the skilled person would understand that this value could be determined analytically by any method which allowed the measurement of the amount of available oxygen, e.g. titration.

Nor would lack of disclosure originate from the fact that the last claim in each of the requests allowed for the additional presence of builders and conventional

deterasive adjuncts. The skilled person would understand each of these claims as describing the possibility that the detergent composition of the invention could additionally comprise builders or other deterasive ingredients different from those already listed in claim 1 of the same request.

In the decision under appeal it was however also found that the amended definition of ingredient "b)" according to claim 1 of the Main Request - stating that the OPB precursor must include from 0.5% to 2.5% of N,N,N',N'-**tetraacetyl ethylene diamine** (hereinafter **TAED**) - was based neither on the claims 17 and 18 as originally filed (see above Section II), nor on the second and third paragraphs of page 10, nor in the first paragraph of page 18 of the application as filed. Thus, and since the original application only disclosed mixtures of TAED in combination with the OPB precursors listed on pages 10 to 17, claim 1 of the Main Request was found to contravene the requirements of Article 123(2) EPC.

Claim 1 of the 1st Auxiliary Request was instead refused because of lack of inventive step. In the opinion of the Opposition Division, documents (16) and (17) concerned the same purpose and had the most relevant technical features in common with this claim and, thus, each of these citations could be seen as disclosing the closest prior art. In particular, it was apparent that the only difference between the claimed subject-matter and examples 4-10 in document (16) or example VIII-C in document (17) was represented by the lower amount of TAED of the claimed composition, since

all these prior art examples contained TAED in an amount of more than 2.5%.

However, the opposed patent remained silent about the criticality or the advantages achieved by limiting the amount of TAED and, thus, the objective technical problem to be solved was only seen in the provision of an alternative bleaching composition.

Since document (17) disclosed on page 20, lines 10 - 14 that the amount of the ingredient possibly represented by TAED would typically be from 0.1% to 60%, preferably from 0.5% to 40% of the bleaching composition, the skilled person would find therein a motivation to include into the compositions of this citation amounts of TAED of from 0.5% to 2.5% by weight, in order to provide an alternative composition.

The Patent Proprietor's argument that by lowering the concentration of the TAED bleach precursor the HPP index value would inevitably also be lowered, was refuted by the Opposition Division because the patent-in-suit provided no proofs as to the criticality or the advantages achieved by correctly selecting the HPP index. Hence, the 1st Auxiliary Request was found not to comply with Article 56 EPC (1973).

The 2nd Auxiliary Request was instead found to comply with the requirements of the EPC and, in particular, also with Article 56 EPC (1973).

Even though the patent-in-suit failed to demonstrate any benefits of the invention over the closest prior art and, thus, the sole objective technical problem solved vis-à-vis documents (16) or (17) remained the provision of an alternative detergent composition, still it appeared unlikely that a skilled person would carry out the several modifications of the examples of

departure required for arriving at the claimed subject-matter. Indeed, some of the modifications needed, such as the selection of a percarbonate with the specified particle size coated with a water-insoluble material, were not even taught in the available prior art. The skilled person would thus arrive at the claimed subject-matter only with hindsight.

VI. Opponent II (hereinafter indicated as **Appellant I**), the Patent Proprietor (hereinafter indicated as **Appellant II**) and one of the two Opponents I (hereinafter indicated as **Appellant III**) lodged an appeal against this decision. The notice of appeal and the appeal fee of Appellant I were received at the EPO on 17 November 2009, its grounds of appeal on 21 January 2010. The notice of appeal and the appeal fee of Appellant II were received at the EPO on 19 November 2009, its grounds of appeal on 27 January 2010. The notice of appeal and the appeal fee of Appellant III were received at the EPO on 30 October 2009, its grounds of appeal on 1 February 2010.

Appellant II initially relied on the same sets of claims considered by the Opposition Division.

On 14 June 2012 Appellant III was informed by the Board that its grounds of appeal appeared filed too late and, thus, that its appeal could be rejected as inadmissible.

On 20 June 2012 oral proceedings took place before the Board in the presence of all Appellants and in the announced absence of the duly summoned Opponent III.

During the hearing Appellant III raised for the first time a new objection under Article 123(2) EPC against claim 1 of the then pending Main Request because the application as originally filed only disclosed for the HPP Index a value of "0.50" at page 6, line 13.

In reaction to this new objection, Appellant II filed at the hearing three sets of amended claims, respectively labelled as **Main Request**, **1st Auxiliary Request** and **2nd Auxiliary Request** in replacement of its previous requests.

These final requests only differ from those already considered in the decision under appeal in that the expression in claim 1 of each of the latter (see above Section IV) reading

"Index of at least 0.5 as defined"

has been amended into

"Index of at least 0.50 as defined".

VII. Appellant II rejected the objections raised by the other Appellants in view of Article 83 EPC (1973) as lacking of any supporting evidence and as manifestly unfounded. In particular, it stressed that:

a) the finding in the decision under appeal, that the person skilled in the art was well aware of the titration techniques normally used for determining AvO₂ levels, was undisputed;

b) the unsupported allegations of the other Appellants that these techniques could possibly provide in certain hypothetical cases contradictory results, were only possibly relevant in view of the clarity of the granted claims and, thus, were irrelevant in opposition or in opposition appeal proceedings;

c) the other Appellants had provided no new evidence justifying the reversal of the finding of the Opposition Division that the skilled person would encounter no difficulty in choosing which sorts and amounts of the ingredients "a)" to "d)", as well as of builders or of any other conventional deterative adjuncts could be used for realizing further embodiments of the claimed compositions

and

d) it was apparent to the skilled person that the last claim in each of the present requests (i.e. claim 17 in the Main and 1st Auxiliary Request, as well as claim 14 of the 2nd Auxiliary Request) only allowed the additional presence of components belonging to classes of ingredients that were different from those listed under "a)" to "d)" in claim 1 of each of the requests.

As to the compliance of claim 1 of the Main Request with Article 123(2) of the EPC, Appellant II considered erroneous the relevance attributed in the decision under appeal to the fact that the original application would not disclose mixtures of TAED in combination with OPB precursors different from those listed on pages 10 to 17. Indeed, the definition in claim 1 of this request of the OPB precursor "b)" comprising from 0.5%

to 2.5% of TAED, was just the combination of explicit disclosures in second and third paragraphs of page 10 and in the first paragraph of pages 17 and 18 of the application as originally filed.

The objections under Article 123(3) EPC raised by the other parties against claim 1 of the 1st and of the 2nd Auxiliary requests were to be rejected because the wording "*which consists of*" preceding the restrictions introduced in the definition of the OPB precursor in claim 1 of the 1st and 2nd Auxiliary Requests implicitly but unambiguously excluded any additional presence in the claimed compositions of further sorts of this ingredient.

Nor would be justified the finding in the decision under appeal that the subject-matter of claim 1 of the 1st Auxiliary Request lacked of inventive step, as the reasons given thereto would not take into account that the required HPP Index rendered the claimed compositions not only environmentally friendly and cost effective, but also capable of dealing with a wide range of soils on laundry, without the fixing of the protein-based stains normally produced by the bleaching ingredients.

As explicitly acknowledged in the decision under appeal documents (16), (17) and (23) addressed totally different technical problems and, thus, represented no realistic state of the art from which to start the assessment of inventive step.

But even in the hypothetical case that a skilled person could have started from any of these citations, still

this prior art would not render obvious the invention. Appellant II conceded that certain compositions exemplified in documents (16) or (17) could be presumed to possess a HPP Index of 0.50 or just above 0.50 and, thus, also to display the benefits associated to this parameter. It considered that the claimed composition would at least represent a more economical alternative to this prior art and that the skilled person searching to solve such problem would not necessarily take into consideration the possibility of reducing therein the amount TAED, in particular since the enzyme and not TAED was apparently the most expensive ingredient of the prior art compositions. But even in the hypothetical case that a skilled person could have considered the possibility of reducing the amount of TAED in any of these examples of the prior art, this modification *per se* would have necessarily lead to a reduction of the HPP Index below the minimum required value of 0.50. Hence, only certain specific combinations of modifications of the prior art would have resulted into compositions as those claimed in the 1st Auxiliary Request. But the skilled person would have no particular motivation to such combinations of modifications.

As to the inventive step assessment for claim 1 of the 2nd Auxiliary Request, Appellant II relied on the corresponding reasons given in the decision under appeal in respect of the auxiliary request considered allowable by the Opposition Division. It stressed that the other Appellants had failed to provide any evidence, *inter alia*, as to the fact that a percarbonate as defined in claim 1 of the 2nd Auxiliary

Request had already been used in detergent compositions as the sole or the most abundant HP source.

VIII. The written and oral submissions of Appellants I and III may be summarised as follows.

None of the requests of Appellant II complied with Article 83 EPC (1973) for the following reasons:

a) depriving the reader of a patent of a full disclosure of the invention would not be in accordance with the principle of Article 83 EPC (1973) and, in the present case, it would not be possible without undue burden to assess whether the invention really "worked" because essential information was not provided, in particular, on the nature of the swatches used in the patent examples;

b) the manifest lack of logic of the definition of the particle size of the composition would leave the skilled person unable to carry out the invention
and

c) according to the jurisprudence of the Boards expressed in the decision T 805/93, Article 83 EPC (1973) would require that the skilled person reading the specification be put in the position of knowing when he is working within the forbidden area of the claims; the absence of a clear instruction as to how to determine the Av_0_2 value and thus the HPP Index, would thus inevitably imply an insufficient disclosure.

The Main Request did not comply with the requirements of Article 123(2) EPC for the reasons already indicated in the decision under appeal for rejecting claim 1 of the then pending Main Request.

Claim 17 of the 1st Auxiliary Request allowed the presence of further ingredients "b)" in the compositions of the respective claim 1, thereby also allowing for compositions which were not encompassed by the granted claim 1, which set a limit of 10% by weight for any OPB precursor in general. This would violate Article 123(3) EPC.

The subject-matter of claim 1 of the 1st Auxiliary request also represented an obvious alternative to the prior art compositions disclosed in document (16) or in document (17) for substantially the same reasons indicated by the Opposition Division in respect of claim 1 of the then pending 1st Auxiliary Request. However, the subject-matter of this claim was also an obvious alternative to the compositions disclosed in document (23), resulting from arbitrary modifications or routine optimization of this prior art as well.

The above objections in view of Article 123(3) EPC and of the presence of an inventive step also applied to the claims of the 2nd Auxiliary Request. The Opposition Division had erred in considering non-obvious the use of percarbonate coated with water-insoluble materials, even in the absence of any evidence as to the contribution of this conventional ingredient to some sort of washing results.

IX. Appellants I and III requested that the decision under appeal be set aside and that the European patent be revoked.

Appellant II requested that the decision under appeal be set aside and the European patent be maintained in amended form on the basis of the Main Request submitted at the oral proceedings or of the 1st or 2nd Auxiliary Requests submitted during oral proceedings.

Reasons for the decision

Admissibility of the appeal of Appellant III

1. The appeal of Appellant III is not admissible because this Party has filed too late its grounds of appeal (see above Sections V and VI of the Facts and Submissions and Article 108 EPC (1973)). Since this fact has been acknowledged by Appellant III no further details needs to be given in this respect.

Admissibility of the requests filed by Appellant II at the oral proceedings before the Board

2. The Board notes that the sole amendment carried out at the hearing by Appellant II to its Main Request and 1st and 2nd Auxiliary Requests (i.e. the change of the HPP Index minimum "0.5" into "0.50", see above Section VI of the Facts and Submission) is manifestly a reaction to a new objection of added matter raised for the first time at the oral proceedings by Appellant III. This has not been disputed by Appellants I and III.

Hence, the Board admits into the proceedings the Main Request and the 1st and 2nd Auxiliary Requests filed at the hearing by Appellant II.

Main Request

3. Article 123(2) EPC: claim 1

The OPB precursor "b)" is defined in claim 1 of the Main Request (see above Section VI of the Facts and Submissions) as "***including***" TAED in an amount of 0.5 to 2.5% by weight, i.e. the same definition present in claim 1 of the Main Request (see above Section IV of the Facts and Submissions) found by the Opposition Division to contravene Article 123(2) EPC.

According to Appellant II there would be ample disclosure in the first paragraph of pages 17 and 18 of the application as filed that the OPB precursor of the invention preferably including TAED in the defined amount.

The Board notes however that the passages in the original application referred to by Appellant II as well as the corresponding definitions in the originally filed claims 17 and 18 (see above Section II of the Facts and Submissions) only disclose the preferred possibility that 0.5 to 2.5% by weight of TAED is (and not "is included in") the OPB precursor ingredient. Hence, and since it is undisputed that the application as filed only discloses among the further possible OPB precursors mixtures of TAED with certain further specific examples of this class of ingredients, the Boards finds no basis in the application as filed for

the definition in claim 1 of the Main Request allowing for the OPB ingredient to **include** 0.5 to 2.5% by weight of TAED.

Accordingly, the set of claims according to the Main Request of Appellant II is found to violate Article 123(2) EPC and, thus, not allowable.

1st Auxiliary Request

This request of Appellant II has only been disputed by the other Appellants in view of Article 123(3) EPC as well as in view of Articles 83 and 56 EPC (1973).

4. Article 123(3) EPC: claims 1 and 17

The objection raised in this respect, although formally directed against claim 17 of the present request (see above Section VIII of the Facts and Submissions), appears implicitly directed against claim 1 of the same request. Indeed, the essence of this objection is that claim 1 would, in the opinion of Appellants I and III, no longer set a limit of 10% by weight for the total amount of OPB precursor "b)" possibly present in the composition and, thus, that additional OPB precursors in unlimited amounts could be possibly encompassed among the "*conventional detergent adjuncts*" mentioned in claim 17.

The Board finds this objection unconvincing because the passage "*which consists only of*" in the definition of ingredient "b)" in claim 1 of the 1st auxiliary request appears to unambiguously define that the **sole** OPB precursor present **is** the TAED in the defined amounts

and, thus, implicitly excludes the presence of any further OPB precursor in the composition according to claim 1 of the 1st Auxiliary Request.

Moreover, in the opinion of the Board, the fact that claim 17 of this request allows for "*conventional deterrentive adjuncts*" in the compositions according to claim 1 cannot reasonably be interpreted by the skilled person as referring to further components of the same classes of the mandatory ingredients already defined (also in their amounts) in claim 1, since any such interpretation would deprive of relevance all the amounts ranges or limit values indicated in claim 1.

Hence, no violation of Article 123(3) EPC is found in the wording of the claims of this request.

5. Article 83 EPC (1973)

None of the objections raised by Appellants I and III as to the sufficiency of disclosure of the subject-matter claimed in the 1st Auxiliary Request is convincing, because:

a) the finding in the decision under appeal, that the person skilled in the art was well aware of the titration techniques normally used for determining AvO_2 levels, has not been disputed

and

b) the statements of Appellants I and III that, contrary to the finding of the Opposition Division, the skilled person would encounter difficulties in choosing

which sorts and amounts of the ingredients "a)" to "d)" of claim 1 of the present request - as well as of builders or of any other conventional deterative adjuncts (mentioned in claim 17 of the same 1st Auxiliary Request) - could be used for realizing further embodiments of the claimed compositions, were disputed by Appellant II and deprived of any supporting evidence.

In addition, the manifest lack of logic in the definition of the particle size distribution of the composition is such that the sole possible interpretation of such definition is that of setting at 5% the maximum amount of both the particles having a diameter greater of 1.4mm and the particles having a diameter of less than 0.15mm.

Also the allegation of Appellants I and III that different AvO_2 titration techniques could possibly provide contradictory results as to whether a certain composition has or not the HPP Index required in claim 1, is unproven and disputed by Appellant II and, thus, must be disregarded.

The Board considers it appropriate to incidentally stress that even if this allegation had been proved, it would appear irrelevant in view of the question of sufficiency of disclosure. Indeed, as discussed in details e.g. in the previous decision of this Board in a different composition T 1414/08 (unpublished in the OJ), the question of whether a skilled person can know what is covered by the claims is a question of definition of the claimed subject-matter, hence Article 84 EPC (1973), rather than of sufficiency of disclosure (Article 83 EPC (1973)).

Moreover, since claim 1 under consideration is not limited to compositions producing a certain level of cleaning, also the objections based on the consideration that the experimental data in the examples of the patent-in-suit do not allow to identify exactly the level of cleaning achieved, appear irrelevant in view of Article 83 EPC (1973).

Nor is insufficiency of disclosure implied by the wording of claim 17 since, as already discussed above, the Board considers that the sole reasonable interpretation of this claim is that it allows the additional presence of components belonging to classes of ingredients that must be different from those listed under "a)" to "d)" in claim 1.

Hence, the Board sees no reason to depart from the finding of the Opposition Division that the person skilled in the art is in the position to identify the suitable starting ingredients and to prepare the claimed compositions. Accordingly, the Board finds that the subject-matter claimed in the 1st Auxiliary Request complies with the requirements of Article 83 EPC (1973) as well.

6. Inventive step: claim 1

The Board finds however that the subject-matter of claim 1 of the 1st Auxiliary Request represents an obvious alternative to the prior art for substantially the same reasons indicated in the decision under appeal for rejection the then pending 1st Auxiliary Request.

6.1 According to the patent-in-suit the aim of the invention is that "of formulating an environmentally friendly product which maximises soil/stain removal without fixing and/or darkening stains/soils, which avoids degradation of the detergent components and which is also inexpensive" (see paragraph [0010] in combination with paragraphs [0001], [0014] and [0015] of the published patent).

Appellant II has argued that the person skilled in the art aiming at solving this technical problem would not consider realistic to start from any of the documents (16), (17) or (23), as none of them addresses in particular the problem of fixing and/or darkening stains/soils.

The Board concurs with Appellant II that none of the available citations deals with exactly the same problem. However, as apparent from paragraph [0001] of the patent-in-suit, these are aspects of the more general problem of providing non-phosphate builder-containing detergent compositions that provide "*effective soil/stain removal*", i.e. good cleaning of different sorts of soils/stains. As convincingly argued by the Appellants I and III (and also as possibly implied in the decision under appeal), this is certainly the scope of any laundry detergent composition for normal home-use, such as those disclosed in these citations. In particular, document (17) mentions explicitly as background of the compositions disclosed therein, the presence in conventional detergent compositions "*in order to remove a wide variety of soils and stains*" of surfactant such as those conventionally used in "*many home-use laundry*

detergent" (see document 17, page 1, lines 12 to 14 and 22 to 25). Hence, even though document (17) is mainly focused in avoiding the degradation of the enzyme activity, it remains a reasonable starting point for the skilled person who is attempting to obtain a detergent composition with effective stain/soil removal.

Accordingly, the Board sees no reason to reject as unrealistic the finding of the Opposition Division that a suitable starting point for the assessment of inventive step is represented, *inter alia*, by the phosphate-free granular detergent composition for washing machines disclosed in example VIII-C of document (17), from which the subject-matter of claim 1 of the 1st Auxiliary request undisputedly only differs in that the amount of TAED must be not larger than 2.5% by weight.

- 6.2 The Board also concurs with the Opposition Division that the paragraphs [0072] and [0075] of the patent-in-suit attribute no criticality in view of any technical effect as to the fact that TAED is preferably present in an amount of less than 2.5% by weight.

Nor is the number of totally different ingredients possibly falling under the very broad definitions of ingredients "a)", "c)" and "d)" in claim 1 under consideration apt at rendering credible that all claimed compositions are certainly more economical than that of example VIII-C of document (17).

Hence, and since it is undisputed that the composition of example VIII-C of document (17) also possess the required HPP Index and, thus, necessarily produces all the technical advantages allegedly attributed to the occurrence of this feature in the patent-in-suit, the Board considers unnecessary to clarify whether or not such technical effects are credibly achieved over the whole breadth of the claim under consideration or not, and, thus, concurs with the finding of the Opposition Division that the technical problem credibly solved by the composition of claim 1 of the 1st Auxiliary Request vis-à-vis the prior art can only be **the provision of further phosphate-free granular detergent compositions** with effective soil/stain removal, i.e. an alternative to the composition of example VIII-C.

- 6.3 The Appellant II has stressed that even if the general disclosure of document (17) embraces the possibility of reducing the amount of TAED in the example of departure, still by doing such modification the skilled person would also inevitably produce a reduction of the HPP Index, which in this example is 0.51, i.e. already very close to the minimum value of 0.50 required in claim 1. Moreover, a reduction of the TAED would also possibly imply a reduction of the alkalinity release below the required minimum. Hence, the claimed subject-matter would not simply derive from a reduction of the OPB precursor in the compositions of the prior art, but implied a combination of modifications, e.g. a simultaneous decrease of the TAED and of the HP source and a compensation for the changed alkalinity.

The Board notes however that document (17) not only explicitly instructs the skilled reader as to the possibility of varying over a broad range the amount of bleach activators (i.e. the same ingredients defined in the patent-in-suit as OPB precursors), by stating that their minimum amount typically starts at 0.1 or at 0.5% by weight (see in document (17) page 20, lines 14 to 14), but also teaches in the same pages 20 to 21 that it is possible to vary the amount of the bleaching agent (e.g. the perborate or percarbonate defined in the patent-in-suit as possible HP sources) whose function is also to participate to the in-situ formation of the actually desired bleaching peroxy acid by reacting with the OPB precursor (see in document (17) page 20, lines 7 to 10, and page 21, lines 4 to 8). Hence, in the opinion of the Board, the skilled reader of document (17) taking into consideration the possibility of realizing further embodiments of this prior art by e.g. reducing the amount of OPB precursor (i.e. TAED) in Example VIII-C of this citation, would obviously also correspondingly reduce the amount of the HP source (i.e. perborate) of the amount no longer needed for reaction with the removed portion of TAED.

Hence, carrying out the combined reduction of TAED and the HP source e.g. in Example VIII-C is within the general teaching of document (17) and requires no further particular motivation of the skilled person.

Moreover, the Appellant II's unsupported allegation, disputed by the Appellants I and III, that reducing the amount of TAED from 3.5% in Example VIII-C to an amount of less than 2.5% would possibly reduce the amount of alkalinity delivered to the washing liquor below the

limit required in the claim under consideration, appears not credible because of the presence of large amounts of carbonate in the same Example VIII-C.

- 6.4 Hence, Appellant II has not succeeded in rendering credible that the skilled person would **not** arrive at the claimed composition by simply following the instruction contained in the same document (17) and, thus, the Board finds that the 1st Auxiliary Request is not allowable already because the subject-matter of claim 1 represents an obvious alternative to the prior art compositions of document (17).

2nd Auxiliary Request

7. The Board finds that the claims 1 and 14 of this request comply with the requirements of Article 123(3) EPC for the same reasons indicated above for claims 1 and 17 of the 1st Auxiliary Request.

The Board also finds the claimed subject-matter according to the 2nd Auxiliary Request to comply with the requirements of Article 83 EPC (1973) for the same reasons indicated above for subject-matter claimed in the 1st Auxiliary Request.

8. Inventive step: claim 1

- 8.1 Claim 1 of the 2nd Auxiliary Request differs from that of the 1st Auxiliary Request in that the former requires at least 90% by weight of the HP source to be percarbonate with a given particle size coated with water-insoluble material.

As also conceded by Appellant I and III at the hearing before the Board, none of the available documents discloses such percarbonate, or even another kind of HP source coated with a water-insoluble material.

Hence, regardless of any consideration as to whether it is credible or not that such additional feature is apt at ensuring over the whole breadth of the claim the achievement of a superior cleaning performance, it remains a fact that the Board has no reason to presume that granulated percarbonate coated with water-insoluble material are, for instance, among the ingredients already conventionally used by the formulator of laundry detergent compositions, or appear manifestly similar to other ingredients already conventionally used for detergent compositions.

Under these circumstances, it is apparent to the Board that the available prior art cannot possibly prove erroneous the finding in the decision under appeal that the skilled person starting from Example VIII-C of document (17) would **not** consider obvious to use therein a percarbonate as defined in claim 1 of the 2nd Auxiliary Request.

The same reasoning remains valid even if the skilled person would have started from the examples of document (16) or (23), also proposed by Appellant I and III as suitable starting point for the assessment of inventive step.

Hence, the Board comes to the conclusion that Appellants I and III have not succeeded in rendering credible that the available prior art renders obvious

the subject-matter of claim 1 of the 2nd Auxiliary Request.

9. Inventive step: claims 2 to 14.

As these claims describe preferred embodiments of the composition of claim 1, the same reasoning given above for concluding that the available prior art does not render obvious the subject-matter of claim 1 applies equally to the subject-matter of claim 2 to 14.

Hence, the 2nd Auxiliary Request of the Appellant II is found to comply also with the requirements of Article 56 EPC (1973).

Order

For these reasons it is decided that:

1. The appeal of Appellant III is rejected as inadmissible.
2. The decision under appeal is set aside.
3. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of the 2nd Auxiliary Request as filed during oral proceedings and the description adapted during the opposition proceedings.

The Registrar:

The Chairman:

D. Magliano

P.-P. Bracke