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D E C I S I O N
of 18 June 2004

Case Number: T 0225/01 - 3.3.6

Application Number: 93870155.4

Publication Number: 0635566

IPC: C11D 3/37

Language of the proceedings: EN

Title of invention:
Detergent compositions inihibiting dye transfer

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
Henkel KGaA

Headword:
Detergent compositions/PROCTER

Relevant legal provisions:
EPC Art. 54, 56, 123(2)

Keyword:
"Main request (no): not novel"
"Auxiliary requests I and II (no): added subject-matter"
"Auxiliary request III (no): obvious alternative"
"Auxiliary request IV (yes): non-obvious modification of the prior art"

Decisions cited:
-

Catchword:
-

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Case Number: T 0225/01 - 3.3.6

D E C I S I O N
of the Technical Board of Appeal 3.3.6
of 18 June 2004

Appellant: (Opponent)	Henkel KGaA VTP (Patente) D-40191 Düsseldorf (DE)
Representative:	-
Respondent: (Proprietor of the patent)	The Procter & Gamble Company One Procter & Gamble Plaza Cincinnati, Ohio 45202 (US)
Representative:	TER MEER STEINMEISTER & PARTNER GbR Patentanwälte Mauerkircherstrasse 45 D-81679 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 19 December 2000 rejecting the opposition filed against European patent No. 0635566 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: P. Krasa
Members: P. Ammendola
V. Di Cerbo

Summary of Facts and Submissions

I. This appeal is from the decision of the Opposition Division rejecting the opposition against the European patent No. 0 635 566, relating to detergent compositions based on N-vinylimidazole (hereafter "VI") N-vinylpyrrolidone (hereafter "VP") copolymer.

II. The patent as granted comprises eleven claims, whereby claims 1, 3, 4 and 5 are independent and read:

"*1. A detergent composition comprising 0.01% to 10% by weight of N-vinylimidazole N-vinylpyrrolidone copolymer having an average molecular weight range from 5,000 to 1,000,000 and a molar ratio of N-vinylimidazole to N-vinylpyrrolidone from 1 to 0.2, characterised in that said composition further comprises a non alkylbenzene sulfonate containing surfactant system.*"

"*3. A detergent composition comprising 0.01% to 10% by weight of N-vinylimidazole N-vinylpyrrolidone copolymer having an average molecular weight range from 5,000 to 1,000,000 and a molar ratio of N-vinylimidazole to N-vinylpyrrolidone from 1 to 0.2, characterised in that said composition further comprises an enzyme selected from cellulases or peroxidases or mixtures thereof.*"

"*4. A detergent composition comprising 0.01% to 10% by weight of N-vinylimidazole N-vinylpyrrolidone copolymer having an average molecular weight range from 5,000 to 1,000,000 and a molar ratio of N-vinylimidazole to N-vinylpyrrolidone from 1 to 0.2,*

characterised in that said composition further comprises a clay."

"*5. A detergent composition comprising 0.01% to 10% by weight of N-vinylimidazole N-vinylpyrrolidone copolymer having an average molecular weight range from 5,000 to 1,000,000 and a molar ratio of N-vinylimidazole to N-vinylpyrrolidone from 1 to 0.2, characterised in that said composition further comprises a metallo catalyst.*"

The dependent claims 2 and 6 to 11 as granted define preferred embodiments of the compositions of the invention.

In particular claim 6 reads:

"*6. A detergent composition according to claims 1-5 comprising N-vinylimidazole N-vinylpyrrolidone copolymer characterized in that said copolymer has an average molecular weight range from 5,000 to 50,000.*"

III. The Opponent, in its notice of opposition, had sought revocation of the patent in suit on the grounds of lack of novelty and of inventive step (Article 100(a) in combination with Articles 52(1), 54 and 56 EPC) and cited, *inter alia*, the following documents:

Document (3) = DE-A-2 814 329,

Document (6) = WO 91/19807

and

Document (7) = EP-A- 0 508 034.

IV. In its decision, the Opposition Division found that the subject-matter of the granted claims was novel and based on an inventive step vis-à-vis the prior art cited by the Appellant.

In particular, it considered that claim 1 defined a surfactant system free from "*alkylbenzene sulfonate*" (hereafter "LAS") and, therefore, that the claimed composition did not contain LAS (see the decision under appeal, points 9c, 9d and 10a of the reasons).

V. The Opponent (hereafter Appellant) lodged an appeal against this decision. With the statement setting out the grounds of appeal it filed

Document (8) = WO-A- 94/10281.

VI. At the oral proceedings before the Board, held on 18 June 2004, the Patent Proprietor (hereafter Respondent) withdrew its former auxiliary requests (including an auxiliary request II filed under cover of a letter dated 12 May 2004) and presented four sets of amended claims as auxiliary requests I to IV.

The amended claims in these requests which are relevant for this decision are the followings.

Claim 1 of the **auxiliary request I** differs from the granted one only in that "*of N-vinylimidazole N-vinylpyrrolidone copolymer*" is replaced by "*of a*

copolymer composed of N-vinylimidazole and N-vinylpyrrolidone".

The same replacement is found in claim 1 of the **auxiliary request II**, wherein further the maximum molecular weight of the VI/VP copolymer is reduced to "*200,000*".

Claims 1, 3, 4 and 5 of the **auxiliary request III** differ from the corresponding granted claims in that the maximum molecular weight of the VI/VP copolymer is reduced to "*50,000*".

The **auxiliary request IV** comprises 9 claims, wherein only claims 1 and 3 are independent and are identical to those of the auxiliary request III, respectively.

Claim 4 is dependent on claim 1 and reads:

"*4. A detergent composition according to claim 1, characterised in that said composition further comprises a metallo catalyst.*"

Claim 2 is identical to claim 2 as granted, and claims 5 to 9 are the renumbered granted claims 7 to 11, respectively.

VII. The Appellant conceded that Document (8) was late filed, but requested nevertheless its introduction in the appeal proceedings because the prior art disclosed in this late filed citation was as relevant as that of Document (3) for taking away the novelty of the subject-matter of claim 1 of the patent as granted.

In respect of the admissibility of the Respondent's auxiliary requests I to IV it argued that they had been filed unjustifiably late since no new fact or ground had been introduced after the Respondent's reply to the statement setting out the grounds of appeal.

The late filed auxiliary requests I and II were also not admissible since the limitation introduced in claim 1 (as to the fact that the copolymer had to be a binary VI/VP copolymer, i.e. not containing any further kind of monomer units) found no basis in the application as originally filed (Article 123(2) EPC).

With regard to the substantial issues, the Appellant argued in writing and orally substantially as follows.

The Opposition Division had erroneously interpreted the wording of granted claim 1 as excluding the presence of LAS from the claimed composition, although this wording - as well as that used in the patent description - only required the mandatory presence of a non-LAS surfactant system, leaving open the possible additional presence of other surfactants, including LAS.
Therefore, the subject-matter of claim 1 of the patent as granted was anticipated by the example in Document (3) based on the copolymer A4 (see Document (3) page 15, lines 1 to 4, in combination with the composition given at page 16, lines 1 to 13).

With regard to the auxiliary request III, the Appellant considered the prior art disclosed in Document (3) as the appropriate starting point for the assessment of inventive step in respect of claim (1) and conceded having no evidence for contradicting the statements in

the patent in suit (see page 2, lines 48 to 49, from page 2, line 57 to page 3, line 4, page 3, lines 15 to 19, page 7, lines 24 to 25) that the composition defined in claims 1 and 3 would have an enhanced dye transfer inhibition combined with an excellent overall detergency. It did not dispute the presence of an inventive step for the subject-matter of claim 1, but maintained that the compositions of claim 3 were nevertheless rendered obvious by the disclosure of Document (6) and that an improved colour clarification might be provided by detergent compositions comprising VP homopolymers or copolymers in combination with polysaccharide cellullases (see Document (6), page 3, lines 5 to 10 and example 1, 3 and 4).
The Appellant additionally considered that certain compositions embraced by claim 4 (as well as by claim 5) did not credibly provide the advantages mentioned in the patent in suit. It concluded that, in particular, the prior art disclosed in Documents (7) and (3) would render obvious part of the subject-matter of claim 4.

In respect of the Respondent's auxiliary request IV, the Appellant raised no objection under Articles 84, 123(2) or (3) or under Rule 57(a) and no new substantial objection (i.e. in addition to that already raised in respect of claim 3 of the auxiliary request III and which obviously applies also to claim 3 in this last auxiliary request).

VIII. The Respondent maintained that the late filed Document (8) should not be admitted in the proceedings.

It argued that the filing for the first time at the oral proceedings of the auxiliary requests I to II was

justified by the fact that before the detailed discussion at the hearing it was convinced that, as acknowledged also in the decision under appeal, claim 1 as granted would clearly exclude any LAS surfactant from the claimed composition.
It stressed that the auxiliary request III filed at the oral proceedings was identical to the former auxiliary request II filed in writing more than one month before the hearing and added that the late filing of the auxiliary request IV was justified by the fact that it had been confronted for the first time at the oral proceedings with the detailed reasons as to why the subject-matter of claims 4 and 5 as granted was held not patentable by the Respondent.

With regard to the main request the Respondent conceded that the non-characterizing portion of granted claim 1 encompassed the possible presence of LAS surfactants and that the characterizing portion in the same claim defined explicitly only the further presence of a non-LAS surfactant system, but argued that this non-characterizing portion would implicitly exclude or at least render doubtful the presence of any LAS in the detergent composition. Hence, the skilled person would look for further information in the description of the patent in suit, where he/she would notice that LAS is not mentioned among the list of the preferred anionic surfactants, but is explicitly disclosed to provide no enhancement of the dye transfer inhibition.

The Respondent did not dispute that the molecular weight of the copolymer A4 disclosed in Document (3) would be about 100,000 and that the general definition of the VI/VP copolymers in Document (3) in terms of

very broad ranges for the comonomer ratio, polymerization grade and viscosity (see claim 8 in combination with the paragraph bridging pages 3 and 4 and with the first paragraph at page 5) would necessarily encompass the VI/VP copolymer defined in the claims of the patent in suit.

In respect of the auxiliary requests I and II, it maintained that they were supported by the originally filed patent application disclosing only binary copolymers of VI and VP.

At the oral proceedings before the Board the Respondent initially submitted in respect of the auxiliary request III that all the compositions defined in claims 1, 3, 4 and 5 had achieved an enhancement of the dye transfer inhibition combined with an excellent overall detergency. However, it finally conceded that claim 4 comprised also compositions containing only LAS as surfactant and that clay was not disclosed in the patent to be as effective as the non-LAS surfactant system characterizing claim 1 or the enzyme characterizing claim 3 in improving the dye transfer inhibition of the VI/VP copolymer.

IX. The Appellant requested that the decision under appeal be set aside and that the European patent No. 0 635 566 be revoked.

X. The Respondent requested that the appeal be dismissed and that the patent be maintained as granted or alternatively on the basis of the claims of one of the auxiliary requests I to IV, respectively as filed during the oral proceedings.

Reasons for the Decision

1. *Admissibility of the late filed Document (8)*

It is established jurisprudence of the Boards of Appeal that a late filed document may be admitted in the proceedings if it is **more relevant** than the other documents already in the case, i.e. when it discloses matter which could change the decision.

Since the Appellant has instead stated (see above point VIII of Facts and Submissions) that the prior art disclosed in this undisputedly late filed citation would be **as cogent** to the novelty of the patent in suit **as** that disclosed in the timely filed Document (3), the Board decides to disregard Document (8) under the provisions of Article 114(2) EPC.

Respondent's main request

2. Subject-matter *of claim 1 of the granted patent*

2.1 Claim 1 as granted (see above point II of Facts and Submissions) defines a detergent composition comprising certain amounts of a VI/VP copolymer with specified molecular weight and comonomer molar ratios. The claimed composition is characterized in that it "*further comprises a non alkylbenzene sulfonate containing surfactant system*".

2.2 The Respondent has maintained that this claim **implicitly** requires that the claimed detergent composition must be LAS-free.

2.3 The Board observes however the following.

(a) The non-characterizing portion of claim 1 defines "*a detergent composition*" in terms of a **non-surfactant** component (i.e. the VI/VP copolymer) **comprised** therein. Therefore, in this portion the term "*detergent*" implies the **necessary** presence of surfactant(s). This is also confirmed by the fact that the used wording is identical to that of the corresponding non-characterizing portion in claims 3, 4 and 5 as granted (see above point II of Facts and Submissions), wherein surfactants are not even mentioned in the respective characterizing portions. Accordingly, and also as explicitly conceded by the Respondent, the wording forming the non-characterizing portion of all the granted independent claims, including claim 1, clearly encompasses the mandatory **presence** of surfactants in general, i.e. **possibly including LAS**.

(b) The characterizing portion in claim 1 only requires the **further** mandatory **presence** of a non-LAS surfactant system (cf. "*further comprising*" in granted claim 1). Hence, this portion **does not exclude** the presence of any component.

Therefore, nothing in claim 1 suggests that the whole claimed composition must be LAS-free.

2.4 The Respondent has additionally argued that the skilled person on reading claim 1 would at least doubt that LAS could be present in the claimed composition. Hence, he/she would observe that LAS is not mentioned in the patent description among the possible anionic surfactants of the surfactant system (see page 3, line 20 to 24 and from page 4, line 50 to page 5, line 49) but is explicitly disclosed to provide no enhancement of the dye transfer inhibition (see page 5, lines 50 to 52) and would conclude that no LAS should be present in the compositions comprising the non-LAS surfactant system.

2.4.1 This argument is not convincing.

As already explained in point 2.3 above the wording of claim 1 is clear.

This claim is also supported by the description. In particular, no explicit or implicit reasons for excluding LAS among the detergents possibly present **in addition** to the non-LAS surfactant could be found by the skilled person in the description of the patent in suit.

On one side - after having explicitly identified the (obviously non-LAS) surfactants preferred for the non-LAS surfactant system (see from pages 3, line 17 to page 5 line 52) - it discloses explicitly at page 5, lines 53 to 55, the possible presence of, *inter alia*, further anionic surfactants "*other than those already described* herein".

On the other side, the sentence at page 5, lines 50 to 52, does **not** disclose that LAS would be detrimental to the enhanced dye transfer inhibition produced by the non-LAS surfactant system, but merely that LAS is not capable of producing such enhancement.

2.4.2 Therefore, the portions of the patent description referred to by the Respondent do not suggest explicitly or implicitly that LAS is necessarily excluded as a component of the claimed compositions **in addition** to the non-LAS surfactant(s).

2.5 Hence, the Board concludes that, contrary to the findings of the decision under appeal, claim 1 encompasses detergent compositions comprising LAS surfactants in addition to the non-LAS surfactant system defined therein.

3. *Novelty (Article 100(a) EPC in combination with Articles 52(1) and 54): claim 1*

In view of the above conclusion and considering that the Respondent has not disputed that a VI/VP copolymer with a specific viscosity of 0.4 must have an average molecular weight of about 100.000 (see also page 4, lines 5 to 9, of the decision under appeal), it is apparent that the example in Document (3) based on the VI/VP copolymer "A4" - which has a specific viscosity of 0.4 and a VI/VP monomer ratio 1:1.1 - and comprising both non-LAS and LAS surfactants (see Document 3, page 15, lines 1 to 4, in combination with the composition disclosed at page 16) falls within the range of compositions of present claim 1.

Therefore, the Board concludes that the subject-matter of claim 1 of the patent as granted is anticipated by the prior art disclosed in Document (3) and, hence, that the patent as granted does not comply with the requirements of Article 54 EPC.

Respondent's auxiliary request I

4. *Late filing and Article 123(2) EPC*

4.1 The Board finds credible the Respondent's argument that only after the detailed discussion at the oral proceedings was it no longer convinced that claim 1 as granted would clearly exclude any LAS surfactant from the claimed composition and, consequently, only then filed auxiliary request I (and II). Therefore, the Respondent's auxiliary request I is admitted in the proceedings even though filed late.

4.2 Claim 1 in this request (see above point VI of Facts and Submissions) differs from the granted one in that the mandatory copolymer must be "*composed of N-vinylimidazole and N-vinylpyrrolidone*", i.e. a binary VI/VP copolymer.

4.3 The Respondent has argued that the basis for such restriction would be implicit in the patent application as filed, because it specifies the monomer molar ratio ranges only for VI and VP, mentions no further possible comonomer and discloses in the examples (see the Tables) a "*N-vinylimidazole and N-vinylpyrrolidone copolymer*" component. Therefore, it has concluded that the application of the patent in suit disclosed only binary VI/VP copolymers.

4.4 The Board observes, however, that "*N-vinylimidazole and N-vinylpyrrolidone copolymer*" is for the person skilled in the art a generic name defining copolymers comprising at least these two monomer units, independently of the presence or absence of further comonomers.

The same applies to the monomer ratio ranges disclosed only for VI and VP in the granted claims and in the patent specifications: these ranges are also possible in any (binary, ternary, etc.) copolymer comprising VI and VP units, independently of the presence or absence of further comonomers.

Finally, the Board notes that the examples in the application of the patent in suit also refer to VI/VP copolymers in general, rather than specifically disclosing a binary copolymer of these comonomers. This is apparent from the fact that no specific molar ratio or molecular weight is disclosed for this component and from the fact that even its amount is defined in the Tables of the patent application as a range (rather than a single value). Hence, these examples appear rather to give general compositional recipes, to be possibly realized using any VI/VP copolymer according to the invention than to relate to specific worked examples.

Therefore, the patent application as filed discloses only VI/VP copolymers in general and not specifically the binary copolymers thereof.

Accordingly, the Board concludes that claim 1 contains subject-matter that is not directly and unambiguously derivable from the content of the patent application as originally filed and, thus, that this request does not comply with the requirements of Article 123(2) EPC.

Respondent's auxiliary request II

5. *Late filing and Article 123(2) EPC.*

The same reasons as given above for the auxiliary request I evidently apply also to the present request. In particular, the absence of support for the amendment in claim 1 of the auxiliary request I applies as well to claim 1 of the auxiliary request II, since both these claims comprise the restriction of the VI/VP copolymer to binary copolymers. Hence also the present request is not admissible in view of Article 123(2) EPC.

Respondent's auxiliary request III

6. *Late filing*

It is immediately evident that the request now designated auxiliary request III is identical to the request already submitted under cover of a letter dated 12 May 2004 (i.e. more than one month before the oral proceedings) as auxiliary request II.

Moreover, the independent claims 1, 3, 4 and 5 of this late filed request differ from the granted ones (see above point VI of the Facts and Submissions) only in that the upper limit for the molecular weight range for the VI/VP copolymer is limited to 50,000 and, hence, it

is also immediately evident that the introduced amendments are based on claim 6 of the patent as granted (see above point II of Facts and Submissions).

Therefore, filing this request at the oral proceedings was a *bone fide* attempt to react to the other Appellant's objections. Hence, given that the Appellant could not have been taken by surprise, the Board decides to admit it into the appeal proceedings.

7. *Articles 84, 123(2) and (3) and Rule 57(a) EPC and novelty (Article 100(a) EPC in combination with Articles 52(1) and 54 EPC)*

The Board is satisfied that the amendment introduced into the independent claims according to this request complies with the requirements of Articles 84, 123(2) and (3) as well as of Rule 57(a) EPC, and that the subject-matter of these claims is novel (Article 54 EPC).

Since the Appellant has raised no objections in this respect, no further reasons need be given.

8. *Inventive step (Article 100(a) EPC in combination with Articles 52(1) and 56 EPC): claim 1*

8.1 The Board notes that the technical problem generally addressed in the patent in suit is **the provision of detergent compositions with improved dye transfer inhibition combined with enhanced detergency performance** (see page 2, lines 29 to 33).

8.2 The detergent composition claimed in claim 1 as s solution to this technical problem comprises (see above point VI of Facts and Submissions) a VI/VP copolymer with an average molecular weight range from 5,000 to 50,000 and a given monomer ratio in combination with a non-LAS surfactant system.

This composition displays an improved dye transfer inhibition (see page 3, lines 13 to 19) and an excellent overall detergency (see from page 2, line 57 to page 3, line 1).

8.3 Document (3) discloses detergent compositions with improved dye transfer inhibition properties (see Document (3), page 3, lines 19 to 20 in combination with the preceding lines 8 to 16). The detergent compositions according to this prior art may comprise as dye transfer inhibiting polymer a copolymer of VI and/or VP generally defined in terms of very broad ranges for the comonomer ratio, polymerization grade and viscosity (see in Document (3), claim 8 in combination with the paragraph bridging pages 3 and 4 and with the first paragraph at page 5). This general definition undisputedly encompasses VI/VP copolymers according to the relevant definition in all the claims. Finally, this citation discloses in the examples the detergent composition based on the VI/VP copolymer A4 mentioned already above (see point 3), which has a VI/VP ratio of 1:1.1 and a molecular weight of 100,000, i.e. the detergent composition of this example of the prior art differs from the composition of present claim 1 **only** in that the used VI/VP copolymer has a molecular weight undisputedly above 50,000.

Hence, the Board finds that the prior art disclosed in Document (3) represents the appropriate starting point for the inventive step assessment in respect of claim 1, which was eventually also accepted by the Appellant.

8.4 The Appellant has not disputed that the detergent composition of claim 1 actually displays the improved dye transfer inhibition and excellent overall detergency performance stated in the patent in suit and the Board does not have any reason for doubting that this composition is superior in overall detergency performance to the prior art composition of Document (3). However, the Board considers that the dye transfer inhibition was already enhanced in the composition of this prior art.

Therefore, the composition of claim 1 is found to have credibly solved vis-à-vis the composition of the prior art disclosed in Document (3) (see above point 8.3) the technical problem of **improving the overall detergency performance**.

8.5 The parties did not dispute that neither Document (3) nor Document (6) (cited by the Appellant) nor any other available citation suggests that (certain) VI/VP copolymers could also improve detergency performance of detergent compositions.

Hence, the skilled person found no incentive to solve the existing technical problem of **improving the overall detergency** of the detergent compositions disclosed in Document (3) by selecting within the general definition of the VI and/or VP copolymer given in this document

(see above point 8.3) a copolymer as defined in present claim 1.

Therefore, the Board concludes that the subject-matter of claim 1 of the auxiliary request III does not represent an obvious solution to the existing problem and, hence, is based on an inventive step.

9. *Inventive step (Article 100(a) EPC in combination with Articles 52(1) and 56 EPC): claim 3*

9.1 The detergent composition of this independent claim comprises (see above point VI of Facts and Submissions) a VI/VP copolymer with an average molecular weight range from 5,000 to 50,000 and a given monomer ratio in combination with cellulase and/or peroxidase enzymes.

9.2 Consistent with the general definition of the scope of the invention in the patent in suit (see above point 8.2), the composition of this independent claim also displays an improved dye transfer inhibition (see the patent in suit, page 3, lines 13 to 16, in combination with page 7, lines 24 to 25) and, according to the said general disclosure, also an excellent overall detergency.

9.2.1 The Board observes, however, that the patent in suit uses at page 7, lines 37 to 38, the vague expression "*colour appearance*" for indicating the property of cellulase enzymes that is "*synergistically*" improved by the VI/VP copolymer, while at lines 51 to 52 of the same page, the property of the peroxidase enzymes that is "*synergistically*" improved by the VI/VP copolymer is identified as the "*dye transfer inhibition*" (i.e. the

wording use for the peroxidases is consistent with the general definition of the addressed technical problem, see above point 9.2).

9.2.2 The Board also notes that the only other property of the enzyme-containing detergent compositions disclosed in the patent in suit is the "*colour maintenance rejuvenation*", which, however is described as a further type of "*colour care benefit*" (see page 8, lines 26 to 29), without making any explicit reference to a synergistic improvement of this property by the VI/VP copolymer or using other expressions that could imply an improvement of such property in respect of the composition of the prior art containing these enzymes.

9.2.3 Since the dye transfer inhibition is the sole clearly defined property that, according to the patent in suit, is "*synergistically*" improved by the presence of VI/VP and the enzymes, the Board concludes that also the vague indication of a "*synergistically*" improved "*colour appearance*" (see above point 9.2.1) can reasonably refer only to the dye transfer inhibition.

Therefore, the Board finds that the only technical problem clearly addressed in the patent in suit with regard to the enzyme-containing compositions of claim 3 is the same as mentioned in the patent in suit in respect of the compositions of the invention in general (see above point 8.2).

9.3 In view of the disclosure of Document (3) (see above point 8.3) which addresses part of this technical problem (i.e. the improvement of dye transfer inhibition) the Board finds that the prior art

disclosed in Document (3) represents the appropriate starting point also for the inventive step assessment for the subject-matter of claim 3.

9.4 Since the Appellant has not contested that the detergent compositions of claim 3 actually display the improved dye transfer inhibition and enhanced overall detergency performance stated in the patent in suit, the Board concludes that this claimed composition is also superior to the prior art composition of Document (3) in overall detergency performance, but not in dye transfer inhibition.

Therefore, the compositions of claim 3, which differ from the prior art of Document (3) only for the additional presence of cellulase and/or peroxidase enzymes and for the lower molecular weight of the VI/VP copolymer, are found to have solved the technical problem of **improving the overall detergency performance** of the detergent compositions disclosed in this citation.

9.5 Accordingly, the question relevant for the inventive step assessment of the compositions of present claim 3 is whether the person skilled in the art would have considered it obvious to:

- (a) select within the general definition of the polymer given in this document (see above point 8.3) a VI/VP copolymer as defined in present claim 3 and use it instead of e.g. the VI/VP copolymer A4 in the examples of Document (3) itself and

- (b) add an enzyme,

in order to **enhance the overall detergency performance** of the detergent compositions of Document (3).

Since the VI/VP copolymer definition is the same in claims 1 and 3, the Board finds also that in the case of claim 3 the purposive selection of these VI/VP copolymers was not suggested to the skilled person as a possible measure for enhancing the overall detergency performance of detergent compositions for the reasons given already above in points 8.5 and 8.6. Therefore, the Board concludes that already for this reason the subject-matter of claim 3 cannot represent an obvious solution to the existing problem vis-à-vis the prior art disclosed in Document (3) and the other citations.

9.6 The Appellant has maintained instead that the detergent compositions of Document (6) for improved "*colour clarification*" of textiles (see above point 9.3) would represent the appropriate starting point for assessing the presence of an inventive step in respect of the detergent compositions of claim 3, because the patent in suit disclosed that the cellulase-containing composition had an improved "*colour appearance*" (see above point 9.2.1).
Hence, the Appellant has argued that e.g. the combination of Documents (6) and (3) would demonstrate that the person skilled in the art of detergent additives for dye transfer inhibition would consider it obvious to substitute the low molecular weight PV homopolymer used in Example 1 of Document (6) by a VI/VP copolymer of the same molecular weight **in order to provide an alternative** to the compositions of this latter prior art.

9.7 This argument is not convincing *inter alia* for the following reasons.

9.7.1 The Appellant's reasoning implicitly assumes that the "*synergistically*" improved "*colour appearance*" of the cellulase-containing compositions of the patent in suit corresponds to the "*colour clarification*" mentioned in Document (6). This assumption is, however, not supported by any evidence, while (as discussed above at point 9.2.3) the rest of the disclosure in the patent in suit suggests that the "*synergistically*" improved "*colour appearance*" must also reasonably correspond to the "*synergistically*" improved "*dye transfer inhibition*".

9.7.2 Moreover, even if one were, for the sake of argument, arbitrarily to assume that "*colour appearance*" in the patent in suit actually corresponded to "*colour clarification*" in Document (6) and, therefore, start the assessment of inventive step from the cellulase-containing detergent compositions of this citation (see Document (6), example 1 and page 3, lines 5 to 10) already known to have "*improved colour clarification*", the fact remains that Document (6) is totally silent as to the dye transfer inhibition and the overall detergency performance of these prior art compositions.

The Board finds credible the statements in the patent in suit indicating that the improvement of both these properties has been achieved by all the composition of the patent in suit wherein the VI/VP copolymer has a molecular weight from 5,000 to 50,000 (see above point 9.4), i.e. including those containing cellulases

according to present claim 3. The Appellant has not provided any evidence that such improvements would not exist in relation to the state of the art disclosed in Document (6). Therefore, the Appellant's submission that the compositions of claim 3 credibly solved only the technical problem of providing an alternative to the compositions of Document (6) has to be disregarded as a mere allegation.

9.7.3 On the contrary, assessing inventive step in this hypothetical case amounts to establishing whether or not the skilled person would have considered it obvious to replace the VP homopolymer of, e.g., examples 1 or 6 of Document (6) by a VI/VP copolymer of the kind defined in present claim 3, **in order to achieve improved dye transfer inhibition and overall detergency performance**.

As already established above (see point 8.5), no citation discloses that VI/VP copolymers may produce an improved overall detergency performance.

In particular. Document (3) mentions only the "*dye transfer inhibition*". Therefore, the skilled person finds no reason to expect in particular the VI/VP copolymers according to present claim 3 and encompassed within the general definition in this citation to be suitable for **improving not only the dye transfer inhibition but also the overall detergency performance** of detergent compositions.

9.7.4 Each of the polymeric dye transfer inhibitors encompassed within the general definition thereof given in Document (3) is therein clearly equally suggested

for improving the dye transfer inhibition properties. However, apart from the VI/VP copolymer according to the definition in present claim 3 and encompassed by the disclosure of this citation, the skilled person would have found within the general definition of the polymeric dye transfer inhibitor of Document (3) several other (obvious) alternatives equally suggested for improving the dye transfer inhibition of detergent compositions. Therefore, the skilled person was not forced to turn to the said VI/VP copolymer as the only possibility for achieving this effect and, accordingly, the enhanced detergency performance property did not simply and automatically fall into the skilled person's lap.

9.8 For all these reasons the Board finds that the detergent composition of claim 3 is based on an inventive step.

10. *Inventive step (Article 100(a) EPC in combination with Articles 52(1) and 56 EPC): claim 4*

10.1 The detergent composition of this claim (see above point VI of Facts and Submissions) comprises clay and the VI/VP copolymer with molecular weight of from 5,000 to 50,000 and a given VI/VP monomer ratio range.

10.2 The patent in suit explicitly states at page 9, lines 19 to 24, that the dye transfer inhibition and softening properties provided by the VI/VP copolymer are not adversely affected by the presence of clay.

10.2.1 However, as conceded by the Respondent, claim 4 embraces compositions containing no enzyme and only LAS

as surfactant (here after indicated as "LAS-only compositions"). Since these compositions (as explicitly stated at page 5, lines 50 to 52, and demonstrated by the additional experiments filed by the Respondents during the substantive examination of the patent application before the EPO) do not reach the level of dye transfer inhibition aimed at in the patent in suit, the above cited explicit statement at page 9 implies that at least the LAS-only composition embraced in claim 4 do not display any of the advantages over the prior art compositions disclosed for the other claimed compositions. Accordingly the technical problem addressed in general by the compositions of the patent in suit (see above point 8.2) cannot possibly be solved by these LAS-only compositions.

10.2.2 The Board wishes also to stress that the patent in suit does not disclose that the compositions described therein may have excellent overall detergency performance independently from the improved dye transfer inhibition. As it is evident from the reasons already indicated above at point 8.2, the patent mentions only the achieved combination of improved level of dye transfer inhibition with enhanced overall detergency performance. Consistent with this definition is also the disclosure from page 2, line 57 to page 3 line 1, that the excellent detergency performance has been found "*In addition*": this expression can only be read as indicating that the beneficial effect on the overall detergency performance produced by the VI/VP copolymer with molecular weight range from 5,000 to 50,000 has been found among the compositions that show an improved dye transfer inhibition. Therefore, the patent in suit does **not** disclose that all detergent

compositions (i.e. including also those that do not have the improved dye transfer inhibition, such as the LAS-only compositions of claim 4) had been found to have an excellent overall detergency, if based on VI/VP copolymer with molecular weight range from 5,000 to 50,000.

10.2.3 Hence, the Board concludes that the patent in suit does not disclose any advantage over the prior art which may reasonably be expected to apply to the LAS-only compositions encompassed in present claim 4. Accordingly, these compositions can only be expected to display conventional properties, including dye transfer inhibition, detergency performance and softening properties.

10.3 Document (7) is the only available citation that discloses detergent compositions with these conventional properties and comprising clay (see claim 1 in combination with page 2, lines 28 to 30 and page 6, lines 40 to 45) and, hence, the Board concurs with the Appellant that this citation offers itself as the appropriate starting point for the assessment of inventive step in respect of the **LAS-only** compositions encompassed in claim 4. This has not been disputed by the Respondent.

10.4 Of course, the technical problem that the LAS-only compositions of claim 4 have credibly solved vis-à-vis those of this prior art also comprising a polymeric dye transfer inhibitor and a clay softener, can only be seen as that of providing further detergent compositions with conventional overall detergency

performance, dye transfer inhibition and softening property, i.e. an alternative thereto.

10.5 This problem has been solved by selecting within the general teachings of Document (7) LAS as the only surfactant (compare in Document (7) claim 1 and page 3, lines 1 to 8) and clay as softening agent (compare in Document (7) claim 1 with page 6, lines 44 to 45) and by substituting further the low molecular weight VP homopolymer of this prior art compositions (see in Document (7) claim 1) by a VI/VP copolymer as defined in claim 4 under consideration.

It is self-evident that selecting one or more compositions embraced by the generic teaching of Document (7) and displaying only those properties already disclosed in this citation could not justify acknowledging an inventive step for this solution to the existing technical problem (see above point 10.4).

Therefore, it is to be decided whether the further feature of the subject-matter of claim 4 resulting from the replacement of low molecular weight VP homopolymer by the particular VI/VP copolymer as defined in claim 4 can contribute an inventive step to the respective composition.

The Board finds that the notional person skilled in the art of detergents knew from Document (3) (see e.g. the title and the claims in this citation) that other polymers were excellent dye transfer inhibitors. Document (3) suggested to the skilled person that the polymeric dye transfer inhibitor of the compositions of Document (7) (i.e. the low molecular weight VP

homopolymer) might be replaced by VI/VP copolymers now defined in claim 4 with the same (or even better) dye transfer inhibition property, which VI/VP copolymers were undisputedly encompassed by the general definition of the polymeric dye transfer inhibitor in Document (3) (see above point 8.3).

In the absence of any evidence to the contrary, the skilled person would have considered **each** of the polymeric dye transfer inhibitors encompassed in the general definition thereof given in Document (3) as equally suitable for providing this property to detergent compositions. Therefore, the Board finds that it was obvious for the person skilled in the art to solve the problem of providing an alternative to the detergent composition disclosed in Document (7) not only by the intrinsically obvious selections within the general teachings of this prior art citation discussed above at point 10.5, but also by substituting the low molecular weight dye transfer inhibiting VP homopolymer used therein by any of those dye transfer inhibiting VI/VP copolymers encompassed in the general definition of the polymeric dye transfer inhibitor of Document (3), i.e. also by any of those falling under the corresponding definition of claim 4, thereby arriving at the LAS-only composition of this claim.

Hence, the Board concludes that the LAS-only compositions according to claim 4 of the auxiliary request III do not involve an inventive step vis-à-vis the combination of the prior art disclosed in Documents (7) and (3).

Therefore, the subject-matter claim 4 of this auxiliary request does not comply with the requirements of Article 56 EPC and, hence, the auxiliary request III is not allowable.

Respondent's auxiliary request IV

11. *Late filing*

The Board finds convincing the Respondent's argument that the filing of this request for the first time at the oral proceedings before the Board is justified by the fact that only at the hearing the Appellant has presented in details its objections as to the absence of an inventive step with regard to the LAS-only compositions of claim 4. Therefore, the Board decides to admit this request into the appeal proceedings even though it had been filed late.

The Board wishes to stress that the Appellant has had sufficient time properly to consider and comment on this request at the oral proceedings, because of the self-explanatory nature of the amendments distinguishing this request from the preceding auxiliary request III (see above point VI of the Facts and Submissions, amendments which evidently aim at restricting the claimed subject-matter to the embodiments of the invention according to claims 1 and 3 of the auxiliary request III) and because the Appellant was in a position to comment on this request after the break of the oral proceedings which it requested for examining this auxiliary request and which was granted by the Board.

12. *Articles 84, 123(2) and (3) and Rule 57(a) EPC and novelty (Article 100(a) EPC in combination with Articles 52(1) and 54 EPC)*

In this request (see above point VI):

- the independent claims 1 and 3 are identical to claims 1 and 3 of the auxiliary request III,
- dependent claim 2 is as granted
- claim 4 is dependent and amounts to a combination of granted claims 1, 5 and 6, and
- dependent claims 5 to 9 correspond to granted claims 7 to 11, respectively.

The Board is satisfied that the amendments to the claims according to this request comply with the requirements of Articles 84, 123(2) and (3) as well as of Rule 57(a) EPC, and that the subject-matter of these claims is novel (Article 54 EPC).

Since the Appellant has raised no objections in these respects, no further reasons need be given.

13. *Inventive step (Article 100(a) EPC in combination with Articles 52(1) and 56 EPC): claims 1 and 3*

Since the independent claims 1 and 3 are identical to claims 1 and 3 of the auxiliary request III, their subject-matter is found to involve an inventive step vis-à-vis the prior art disclosed in Document (3) for the reasons already given above at points 8 and 9.

14. *Inventive step (Article 100(a) EPC in combination with Articles 52(1) and 56 EPC): claims 2 and 4 to 9*

The reasoning given above in respect of the subject-matter of the independent claims 1 and 3 applies also to their preferred embodiments defined in claims 2 and 4 to 9.

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 in amended form on the basis of claims 1 to 9 according to the auxiliary request IV and a description to be adapted thereto as necessary.

The Registrar: The Chairman:

G. Rauh P. Krasa