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**Datasheet for the decision  
of 29 April 2008**

**Case Number:** T 1924/06 - 3.3.06

**Application Number:** 01999250.2

**Publication Number:** 1340805

**IPC:** C11D 7/12

**Language of the proceedings:** EN

**Title of invention:**

Method of laundering clothes and detergent composition therefor

**Applicant:**

MIZ Co., Ltd.

**Headword:**

Anti-soil redeposition component/MIZ

**Relevant legal provisions:**

EPC Art. 123(2)

**Relevant legal provisions (EPC 1973):**

EPC Art. 54(1)(2), 56

**Keyword:**

"Novelty (main request): no - features of dissolved product deriving from the known features of the prior art composition"  
"Admissibility of disclaimer (first auxiliary request): no"  
"Inventive step (second auxiliary request): no - obvious addition of a known washing aid because of its known properties"

**Decisions cited:**

G 0001/03

**Catchword:**

points 1.2.4 and 3.2.8



Case Number: T 1924/06 - 3.3.06

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.06  
of 29 April 2008

**Appellant:** MIZ Co., Ltd.  
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**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted 31 July 2006  
refusing European patent application  
No. 01999250.2 pursuant to Article 97(1) EPC.

**Composition of the Board:**

**Chairman:** P. Ammendola  
**Members:** L. Li Voti  
J. Van Moer

## Summary of Facts and Submissions

I. This appeal lies from the decision of the Examining Division to refuse European patent application no. 01 999 250.2, concerning a method of laundering clothes and a detergent composition therefor.

II. In its decision, the Examining Division, referring to document

(1): WO-A-96/09367,

found, *inter alia*, that the subject-matter of claim 9 of the set of 19 claims submitted with the letter of 19 June 2006 lacked novelty over document (1), which disclosed granules containing 50 to 99% of alkali metal silicate and 1 to 50% of a (meth)acrylate ester polymer as anti-soil redeposition agent.

III. An appeal was filed against this decision by the Applicant (Appellant).

The Board submitted its preliminary opinion in a communication dated 28 February 2007 and cited *inter alia* documents

(2): US-A-5433885 and

(7): CA-A-2312345.

Oral proceedings were held on 29 April 2008.

During the oral proceedings the Appellant submitted three amended sets of claims to be considered, respectively, as main request and as first and second

auxiliary requests and an amended page 2a of the description.

IV. The set of 19 claims according to the main request contains an independent claim 9, reading as follows:

"9. A detergent composition in which inorganic salt forming an alkaline buffer system is a main component for detergency, and in which an anti-soil redeposition component that prevents resoiling of fibers is further contained, characterized in that

- the anti-soil redeposition component is a non-ionic water-soluble high molecular substance,
- the total amount of the anti-soil redeposition component is no more than 9 wt.% of the total amount of the detergent composition,
- the detergent composition has the property that, when a washing liquid has said detergent composition dissolved in water in a concentration of 0.5 to 5 g/l, the washing liquid has a pH between 9.5 and 11, and has a surface tension of 0.058 N/m (58 dyne/cm) or less as a result of said anti-soil redeposition component containing at least one kind of substances having an effect of decreasing the surface tension of the washing liquid, and
- the detergent composition includes no surface active agent other than substances included in said anti-soil redeposition component."

Claim 9 of the set of 19 claims according to the first auxiliary request differs from that according to the main request insofar as it contains the additional wording "**excluding those having a poly-oxy propylene group as hydrophobic group**" after the wording "- the

anti-soil redeposition component is a non-ionic water-soluble high molecular substance".

The set of 8 claims according to the second auxiliary request contains an independent claim 1 reading as follows:

"1. A clothing washing method comprising washing with a washing liquid obtained by dissolving in water a detergent composition in which inorganic alkali metal salt forming an alkaline buffer system is a main component for detergency, and in which the total amount of the inorganic alkali metal salt is not less than 90wt% of the total amount of the detergent composition, and an anti-soil redeposition component that prevents resoiling of fibers is further contained, characterized in that

- the anti-soil redeposition component is a non-ionic water-soluble high molecular substance,
- the total amount of the anti-soil redeposition component is no more than 9 wt.% of the total amount of the detergent composition,
- said washing liquid has said detergent composition dissolved into a concentration of 0.5 to 5 g/l, has a pH between 9.5 and 11, and has a surface tension of 0.058 N/m (58 dyne/cm) or less as a result of said anti-soil redeposition component containing at least one kind of substances having an effect of decreasing the surface tension of the washing liquid, and
- the washing liquid includes no surface active agent other than substances included in said anti-soil redeposition component."

V. In its communication dated 28 February 2007 the Board considered preliminarily *inter alia* that

- document (1) did not appear to detract from the novelty of the claimed subject-matter, since there was no reason to assume that the anti-soil redeposition polymers disclosed in this document would be able to decrease the surface tension of the washing liquid;

- compositions comprising an alkaline buffer system capable of providing upon dilution a washing liquid having a pH between 9.5 and 11, and an anti-soil redeposition agent having surface-active properties and capable of providing a reduction of the surface tension of the washing liquid as required in the present application, appeared to be known from document (2);

- the most suitable starting point for the evaluation of inventive step appeared to be represented by document (7), dealing with the same technical problem as the present application;

- document (7) disclosed washing liquids having a pH within the same range of the present application and comprising an alkaline buffering system as the main detergent component;

- the alkaline detergent compositions disclosed in this document differed from those of the present application only insofar as they did not comprise an anti-soil redeposition agent capable of reducing the surface tension of the washing liquid;

- since the technical problem addressed in the present application appeared to have been already solved by the invention of document (7), the technical problem underlying the present invention would have to be formulated in simpler terms as the provision of an alternative detergent composition based on a similar alkaline buffer system and having improved detergent properties;

- document (7) taught already that the detergency of the compositions disclosed therein would be improved by adding minor amounts of known washing aids such as anti-soil redeposition agents or non-ionic surfactants like polyoxyethylene sorbitan fatty acid esters;

- therefore, it appeared that it would have been obvious for the skilled person to add known anti-soil redeposition agents like the hydroxyalkyl celluloses, which according to table 8 of the present application are capable of reducing the surface tension of a washing liquid, or a surfactant like polyoxyethylene sorbitan fatty acid ester, which according to table 9 of the present application has an anti-soil redeposition properties, in order to improve the detergency of the compositions disclosed in document (7);

- therefore, the claimed subject-matter appeared not to involve an inventive step.

VI. The Appellant submitted in writing and orally *inter alia* that

- the anti-soil redeposition agent disclosed in document (1) would not have the effect of decreasing the surface tension of the washing liquid; therefore, this document would not detract from the novelty of the claimed subject-matter;

- the detergent compositions disclosed in document (2) contained a Pluronic surfactant, which was an anti-soil redeposition component according to the present invention; however, the amount of detergent composition dissolved in the washing liquid according to the teaching of this document would be outside the limits of the present claims and the anti-soil redeposition agent would be added to a cleaning solution containing the alkaline buffer system already dissolved in water; therefore, the claimed subject-matter would be novel over document (2).

As regards the inventive step of the claimed subject-matter, the Appellant submitted that

- the washing liquid of document (7) would be prepared by means of electrolysis and not by dissolving in water an alkaline detergent composition as in the present invention;

- moreover, the washing liquid used according to the teaching of document (7) would require a great amount of alkali buffer for achieving good detergency and would not exclude the addition of surfactants for improving detergency;

- in addition, according to the teaching of document (7), an anti-soil redeposition agent could be added as



washing aid to a neutral washing liquid and not to an alkaline washing liquid;

- furthermore, this document would suggest to use only carboxymethyl cellulose as anti-soil redeposition agent, i.e. a compound which cannot reduce by itself the surface tension of the washing liquid and is added only for its antiredeposition properties;

- therefore, the prior art would not suggest that it would be possible to provide a washing method and a detergent composition having a cleaning efficiency comparable or better than that of compositions based on conventional surfactants by combining only an inorganic salt as main detergent component with specific anti-soil redeposition agents capable of reducing the surface tension of the washing liquid;

- hence the claimed subject-matter would involve an inventive step.

VII. The Appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of any of the main request or of the first or second auxiliary requests, all of them submitted during oral proceedings.

## Reasons for the Decision

### 1. *Main request*

#### 1.1 Articles 84 EPC 1973 and 123(2) EPC

The Board is satisfied that the claims according to the main request comply with the requirements of Articles 84 EPC 1973 and 123(2) EPC.

Since the appeal fails on other grounds no further details are necessary.

#### 1.2 Novelty

- 1.2.1 Claim 9 relates to a detergent composition comprising an alkaline buffer system made of inorganic salts as the main detergent component and no more than 9 wt.% of the total amount of the detergent composition of an anti-soil redeposition component which is a non-ionic water-soluble high molecular substance; moreover, the detergent composition includes no surface active agent other than substances included in said anti-soil redeposition component. Furthermore, the detergent composition, when dissolved in water at a concentration of 0.5 to 5 g/l, produces a washing liquid having a pH between 9.5 and 11 and a surface tension of 0.058 N/m (58 dyne/cm) or less (see point IV above).

The Board notes that claim 9 does not contain any limitation as to the detergent composition being solid. In fact, as explained in the description of the present application, the detergent composition of the invention can also be prepared as a liquid (see paragraphs 36, 89

and 90 of the published version of the present application, to which is made also reference hereinafter).

Therefore, in the case of a liquid detergent composition, the provision that a specified pH and surface tension are obtained upon dissolution in water at a given concentration can only be understood as a provision which has to be obtained by further diluting the liquid detergent composition with water. This interpretation is also supported by a wording used in the description referring to a commercial liquid detergent composition which is "diluted and dissolved" with water to give a washing liquid (see paragraphs 145 and 147).

1.2.2 Document (1) discloses granules containing, on a dry basis, 50 to 99 wt% of alkali metal silicate and 1 to 50 wt% of a (meth)acrylate ester polymer as anti-soil redeposition agent (see claim 1 and page 5, lines 1 to 10).

However, according to this citation, the ester polymer has only anti-soil redeposition properties. Moreover, the same polymer is also not identified in the present application among the anti-soil redeposition polymers having the capacity of reducing the surface tension of a washing liquid (see paragraphs 56, 58 and table 8 on page 12).

Therefore, the Board finds that there is no reason to assume that the anti-soil redeposition polymers disclosed in document (1) are able to decrease the surface tension of the washing liquid.

Document (1) thus cannot be considered to detract from the novelty of the subject-matter of claim 9.

- 1.2.3 Document (2) discloses a cleaning solution containing as the main detergent component 1.0, 1.7, 2.6, 3.5 or 6.0% by weight of an alkaline buffer system consisting of 75 wt% of potassium carbonate, 12.5 wt% of sodium bicarbonate and 12.5 wt% of sodium carbonate monohydrate; this cleaning solution contains further 0.05 wt% of Pluronic L101 which is a poly(oxyethylene) poly(oxypropylene) block copolymer having a molecular weight of about 3800 (see example X read in combination with example I, column 14, lines 26 to 28; and column 12, lines 49 to 53).

Pluronic L101, as explained in the present application, is a surfactant having anti-soil redeposition properties and is an anti-soil redeposition component according to the present invention (see page 11, lines 3 to 6; page 12, table 8; page 16, lines 24 to 26 and figure 2).

Therefore, the cleaning solution disclosed in document (2) does not include surface active agents other than substances having antiredeposition properties.

- 1.2.4 As regards the remaining features of claim 9, requiring that the detergent composition gives a washing liquid having a pH between 9.5 and 11 and a surface tension of 0.058 N/m (58 dyne/cm), the Board notes that the cleaning solution disclosed in document (2) is a detergent composition which can be further diluted with water as required in claim 9.

Moreover, as indicated in the Board's communication of 28 February 2007, the compositions of document (2) appeared to be able to produce, upon dilution with water, a washing liquid having a pH and a surface tension as required in the claims. This finding has not been contested in writing or orally by the Appellant.

In particular, the Board finds that document (2) indicates explicitly that the cleaning solutions of example I having an alkaline buffer concentration of 2.6 or 3.5 wt% (26 or 35 g/l) have a pH of about 10.5 (see table IV, column 16, lines 6 to 61).

The present application shows in table 2 (page 4) that a test liquid B containing a buffer system similar to that of document (2) and consisting of 75 wt% of sodium carbonate and 25 wt% of sodium bicarbonate has an almost unchanged pH of about 10.5 throughout concentrations varying between 100 and 0.1 g/l.

Therefore, also the pH of the cleaning solutions of document (2) indicated above will not change substantially upon further dilution with water, e.g. by diluting 5 g of such cleaning solutions with 1 litre of water to give washing liquids containing 0.13 and 0.18 g/l of the buffer system, respectively. The pH of the so obtained washing liquid will thus remain at a value of about 10.5.

Therefore, in the Board's judgement, the cleaning solutions of example I containing 1, 1.7, 2.6, 3.5 or 6% of the alkaline buffer system, must have necessarily, because of the used buffer system, a pH between 9.5 and

11 upon further dilution in water to a concentration of 0.5 to 5g/l.

Moreover, since the cleaning compositions disclosed in document (2) contain as anti-soil redeposition component one of the preferred surfactant having anti-soil redeposition properties according to the teaching of the present application (see page 15, lines 1 to 3, 11 to 13 and 19 to 21 as well as page 16, lines 24 to 38), they must also have necessarily a surface tension of 0.58 N/m or less as required in claim 9, upon further dilution in water to a concentration of 0.5 to 5g/l.

- 1.2.5 Therefore, the Board concludes that the above disclosure of document (2) detracts from the novelty of the subject-matter of claim 9.

The main request thus has to be dismissed already on these grounds.

2. *First auxiliary request*

2.1 Article 123(2) EPC

- 2.1.1 Claim 9 according to the first auxiliary request differs from claim 9 according to the main request insofar as it contains the additional wording "**excluding those having a poly-oxy propylene group as hydrophobic group**" added after the wording "- the anti-soil redeposition component is a non-ionic water-soluble high molecular substance".

The original documents of the application disclose that the antiredeposition component according to the invention **may comprise** polyoxypropylene hydrophobic groups and polyoxyethylene hydrophilic groups such as, e.g., in the case of the Pluronics (see page 15, lines 11 to 13; page 16, lines 24 to 26, claims 15, 27 and 45).

Therefore, the Board finds that these original documents do not teach that the claimed composition **should not contain** an anti-soil redeposition component which is a non-ionic water-soluble high molecular substance **having a poly-oxy propylene group as hydrophobic group** but teach only that these anti-soil redeposition components are part of the invention.

Therefore, there is not a support in the original documents of the application for the amended wording of claim 9.

- 2.1.2 Moreover, the amendment introduced into the wording of claim 9, by excluding an anti-soil redeposition component which is a non-ionic water-soluble high molecular substance **having a poly-oxy propylene group as hydrophobic group**, contains a negative feature not supported by the original documents of the application, i.e. a disclaimer, which has been introduced into the wording of claim 9 in order to re-establish novelty over document (2).

It thus should be evaluated if this disclaimer is admissible under Article 123(2) EPC.

2.1.3 According to the established jurisprudence of the Boards of Appeal of the EPO, a disclaimer introduced for restoring the novelty of a claim against a disclosure in a prior art document cited under Article 54(1)(2) EPC and having no proper basis in the application as originally filed may be admissible under Article 123(2) EPC if said prior art disclosure is an accidental anticipation; moreover, an anticipation can be considered to be accidental if it is so unrelated and remote from the claimed invention that the person skilled in the art would have never taken it into account when making the invention (see G 1/03, OJ EPO 2004, 413, headnote 2.1).

Since a skilled person, in making an invention, would have to consult, under certain circumstances, also documents in a remote technical field or relating to a different technical problem, the fact that the prior art document does not deal with the technical problem underlying the claimed invention is not decisive for accepting the disclosure of such a document as an accidental anticipation (see G 1/03, point 2.2.2 of the reasons for the decision).

It should thus be evaluated if the disclosure of document (2) is an accidental anticipation or not.

2.1.4 The description of the present application specifies that the technical problem underlying the invention concerns the provision of a detergent composition and of a laundry washing method using the same, wherein the detergent composition does not includes surface active agents which have been questioned in terms of safeness on the human body and reduction in environmental impact



but is equivalent or superior to conventional laundry soaps and synthetic detergents having such surface active agents (see page 2, lines 35 to 39).

The Board finds that document (2) does not deal explicitly with this technical problem and addresses a different one, i.e. that of providing a cleaning composition for use in aqueous solution which composition contains alkaline salts as the main detergent component and is stabilized against the flocking of silicate from the cleaning solution (column 3, lines 45 to 50).

However, this document relates, like the present application, to detergent compositions containing an alkaline buffer system as the main detergent component, which compositions can be used also as laundry detergents (see column 3, lines 57 to 59; column 5, line 67 to column 6, line 1; column 6, lines 19 to 24; column 8, line 5 to column 9, line 13 and column 23, lines 50 to 52; claim 1).

Since the skilled person, in making the invention, would have necessarily looked for other compositions containing an alkaline buffer system as the main detergent component, he thus would have also considered the compositions of document (2).

- 2.1.5 Therefore, the Board concludes that document (2) is not from a technical point of view so unrelated and remote that the person skilled in the art would never have taken it into consideration when working on the invention (see G 1/03, point 2.2.2 of the reasons for the decision).

The disclosure of document (2) cannot thus be considered to represent an accidental anticipation.

Therefore, the disclaimer contained in claim 9 does not fulfil the conditions required to render it admissible.

The subject-matter of claim 9 thus does not comply with the requirements of Article 123(2) EPC.

The first auxiliary request thus has to be dismissed already on these grounds.

3. *Second auxiliary request*

3.1 Articles 54(1)(2) EPC 1973, 84 EPC 1973 and 123(2) EPC

The Board is satisfied that the claims according to the second auxiliary request comply with the requirements of Articles 54(1)(2) 1973, 84 EPC 1973 and 123(2) EPC.

Since the appeal fails on other grounds no further details are necessary.

3.2 Inventive step

3.2.1 Claim 1 regards a method for washing clothes with a washing liquid of pH between 9.5 and 11, obtained by dissolving in water, at a concentration of 0.5 to 5 g/l, a detergent composition in which an alkaline buffer system made of inorganic alkali metal salts is the main detergent component. Moreover, the used detergent composition contains a non-ionic water-soluble high molecular substance as an anti-soil redeposition

component at a concentration of no more than 9 wt. % and should not contain any other surface active agent other than substances included in said anti-soil redeposition component. Furthermore, the anti-soil redeposition component should contain at least one substance able to reduce the surface tension of the washing liquid to 0.058 N/m (58 dyne/cm) or less.

As explained in the description, detergents based on soaps or synthetic surface active agents were usually used for laundry washing because of their excellent detergency. However, such surface active agents were considered to be harmful to the environment or not safe for the human body at the amounts used in such detergent compositions (see paragraphs 2 and 3).

Moreover, even though detergent compositions having alkaline salts as main detergent components and not having added surface-active agents had been disclosed, it had not been possible sofar to provide this type of detergent compositions having an efficiency equivalent or superior to that of the detergents based on soap or synthetic surface-active agents (see paragraphs 4 to 6).

Therefore, the description of the present application formulates the technical problem underlying the invention as the provision of a detergent composition and of a laundry washing method using the same wherein the detergent composition does not include surface active agents which are harmful to the human body and have a negative environmental impact or have a drastically reduced amount thereof but is equivalent or superior in detergency to conventional laundry

detergents based on soaps or synthetic detergents (see paragraph 7).

- 3.2.2 The most suitable starting point for assessing inventive step is, according to the jurisprudence of the Boards of Appeal of the EPO, a document (if available) conceived for the same purpose or aiming at the same objectives as the claimed invention and having the most relevant technical features in common (see Case Law of the Boards of Appeal of the EPO, 5th edition, 2006, point I.D.3.1).

As explained hereinbefore (point 2.1.4), document (2) does not deal explicitly with the above mentioned technical problem and thus is not a suitable starting point for the evaluation of inventive step.

To the contrary, document (7) deals explicitly with the technical problem of providing a detergent composition and a laundry washing method using the same, wherein the detergent composition is not harmful to the human body and to the environment and is equivalent or superior in detergency to conventional laundry detergents based on surface active agents (see page 1, line 12 to page 2, line 18 and page 3, lines 10 to 16).

Therefore, the Board takes this document, dealing with a technical problem similar to that addressed in the present application, as the most suitable starting point for evaluating inventive step.

This has not been contested by the Appellant.

- 3.2.3 Document (7) discloses the use of a washing liquid obtained by dissolving in water alkali metal carbonate

and/or bicarbonate, subjecting it to electrolysis to obtain a so-called undiluted detergent and further diluting such an undiluted detergent with water (see page 2, line 19 to page 3, line 18; page 7, lines 1 to 3; figure 1).

Since the wording of claim 1 does not exclude explicitly an electrolysing step or further dilution steps and, to the contrary, the use of an electrolysed solution and of a liquid composition as starting detergent composition for the preparation of the washing liquid is explicitly encompassed by the present invention (see paragraphs 36, 89, 90 and point 1.2.1 above), the preparation of the washing liquid by electrolysis and further dilution is not a technical feature distinguishing the disclosure of document (7) from the subject-matter of claim 1.

Moreover, according to the teaching of document (7), an undiluted detergent, which comprises exclusively, e.g. 36 g of alkali metal buffer in 1 or 2 litres of water or 22.5 g of an alkali metal buffer in 0.5 litres of water, and not comprising any surface active agent, is further diluted thirty times with water to give a washing liquid having between 0.5 and 5 g/l of the undiluted detergent composition and a pH between 9.5 and 11 as required in claim 1 (see page 25, line 17 to page 26, line 16, table 2 on page 27, page 27, line 15 to page 28, line 14, table 3 on page 29, page 31, line 15 to page 32, line 15).

Therefore, the washing method disclosed in document (7) differs from the subject-matter of claim 1 only insofar as it does not require the presence of an anti-soil

redeposition component capable of reducing the surface tension of the washing liquid.

- 3.2.4 Since the washing liquids of document (7) provide a detergency equal or superior to that of conventional detergent compositions based on synthetic surface active agents (see, e.g., embodiment 5 on pages 31 to 35, especially, page 34, line 14 to page 35, line 3), the washing method of document (7) already solved the technical problem addressed in the present application.

Therefore, the technical problem underlying the invention can only be defined in simpler terms as the provision of an alternative washing method with a detergent composition which is not harmful to the human body and to the environment and provides better detergency than those disclosed in document (7).

The Board is convinced, in the light of the teaching of the present application (see paragraphs 119, 133, 150, 158), that the washing method of claim 1, requiring the presence of an anti-soil redeposition component, solves the above mentioned technical problem.

- 3.2.5 Document (7) teaches that washing aids can be added before or after dilution of the detergent composition prepared by electrolysis according to the teaching of that document in order to improve the detergency (see page 7, lines 7 to 9).

Therefore, it would have been obvious for the skilled person, faced with the above mentioned technical problem, to follow the teaching of document (7) itself and to add a washing aid to the alkaline washing

liquids disclosed in document (7), in order to further improve their detergency.

- 3.2.6 As regards the washing aids, document (7) suggests to add minor amounts of fatty acid or soap to the alkaline detergents, whilst anti-soil redeposition agents such as carboxymethyl cellulose or non-ionic surfactants such as sugar fatty acid ester and polyoxyethylene sorbitan fatty ester, are cited *inter alia* as washing aids for the neutral detergents (page 7, lines 10 to 19).

However, it was well known to the skilled person that anti-soil redeposition agents improve the anti-soil redeposition efficiency of a detergent composition and, consequently, its detergency. Therefore, a skilled person, because of his knowledge of the technical effect of an anti-soil redeposition agent of improving detergency, would have considered the addition of an anti-soil redeposition agent not only to the neutral detergents as suggested in this document but also to the alkaline detergents disclosed in document (7) **with the reasonable expectation of improving the detergency of the washing liquid.**

As to the concentration of the anti-soil redeposition component which, according to claim 1 should be below 9% by weight of the detergent composition, it has not been made credible by the Appellant that the selection of such a concentration brings about any particular technical effect; furthermore, a similar concentration of the anti-soil redeposition component is already suggested in one example of document (7) showing the

addition of carboxymethyl cellulose to a neutral composition (see page 35, lines 6 to 8 and 20 to 23).

Therefore, it would have been obvious for the skilled person to add a minor amount of less than 9 wt% of an anti-soil redeposition component to the detergent compositions of document (7) in order to improve their detergency.

- 3.2.7 The fact that document (7) cites soaps or specific non-ionic surfactants as possible washing aids cannot be considered, in the Board's view, a teaching that would have led the skilled person in the direction of adding substantial amounts of surface active agents and, consequently, away from the invention.

In fact, the detergent compositions of document (7) provide already without any surfactant a detergency comparable or better to that of commercially available synthetic detergents, as explained above (see also, e.g., embodiment 5, page 34, line 14 to page 35, line 2). Moreover, minor amounts of soaps and of the same type of non-ionic surfactants mentioned in document (7), are considered to be suitable components of the detergent compositions of the present invention (see page 9, lines 14 to 18; paragraph 59 and table 9 on page 13) and thus cannot be considered to be compounds which, in minor amounts, would be harmful to the body and the environment.

Therefore, document (7) cannot be considered to contain the teaching, contrary to the invention, of using substantial amounts of surface active agents which are



harmful to the human body and have a negative environmental impact in order to improve detergency.

- 3.2.8 The Board finds also that the skilled person, aware of the beneficial effects of anti-soil redeposition agents, would not have been limited by the teaching of document (7) in the selection of suitable anti-soil redeposition components.

To the contrary, he would have also tried at least other anti-soil redeposition components well known in the art and similar in structure to the carboxymethyl cellulose mentioned in document (7), e.g. other known cellulose derivatives such as the hydroxy propyl cellulose, which is an anti-soil redeposition component able to decrease the surface tension of the washing liquid as required by claim 1 (see paragraphs 56 and 58 of the present application).

The fact that the properties of such an anti-soil redeposition component of reducing the surface tension of the washing liquid might have been unknown at the filing date of the present application is of no relevance for the evaluation of inventive step.

In fact, the skilled person, faced with the technical problem of increasing the detergency of an alkaline composition disclosed in document (7), would have added, as explained above, a small amount of a known anti-soil redeposition agent, such as hydroxy propyl cellulose, because of its known properties of increasing anti-soil redeposition and improving detergency, with the expectation of successfully solving the above mentioned technical problem.

3.2.9 The Board concludes that the subject-matter of claim 1 lacks an inventive step.

**Order**

**For these reasons it is decided that:**

The appeal is dismissed.

The Registrar:

The Chairman:

P. Cremona

P. Ammendola