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**Datasheet for the decision
of 30 July 2008**

Case Number: T 1239/06 - 3.3.06

Application Number: 97905475.6

Publication Number: 0990697

IPC: C11D 17/06

Language of the proceedings: EN

Title of invention:

Granular detergent composition for clothing

Patentee:

KAO CORPORATION

Opponents:

Unilever PLC
The Procter & Gamble Company

Headword:

Different granules/KAO CORPORATION

Relevant legal provisions:

RPBA Art. 12(2)

Relevant legal provisions (EPC 1973):

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

Keyword:

"Respondent 02's submissions in writing not constituting a substantiated full case"

"Novelty (yes): meaning of "different granules" to be interpreted in the light of the description"

"Inventive step (yes)"

Decisions cited:

T 0349/00

Catchword:

points 1.1.2 and 1.2.1



Case Number: T 1239/06 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 30 July 2008

Appellant:
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Decision under appeal: Decision of the Opposition Division of the European Patent Office posted 8 June 2006 revoking European patent No. 0990697 pursuant to Article 102(1) EPC 1973.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
A. Pignatelli

Summary of Facts and Submissions

- I. The present appeal is from the decision of the Opposition Division to revoke the European patent no. 0 990 697, concerning a granular detergent composition.
- II. In their notices of opposition the Opponents 01 and 02, referring *inter alia* to documents
- (1): WO95/04125 and
(6): WO92/18594,
- sought revocation of the patent *inter alia* on the grounds of Article 100(a) EPC, because of lack of novelty and inventive step of the claimed subject-matter.
- The Opponents 01 and 02 submitted before oral proceedings the additional documents (11): EP-A-164514 and (12) to (15), respectively.
- During the oral proceedings held on 19 May 2006 before the Opposition Division, Opponent 02 raised an objection under Article 123(2) EPC against the claims according to the then pending main request.
- III. In its decision, the Opposition Division found that the only document discussed by Opponent 02 during oral proceedings had been the late filed document (13); since this document was not more relevant than document (6), submitted with one of the notices of opposition, it had not to be admitted. Moreover, the late filed documents not addressed to by Opponent 02 during oral

proceedings had to be considered less relevant than the documents cited in the notices of opposition.

In fact, the late filed documents (12), (14) and (15) were not considered in discussing the patentability of the claimed subject-matter.

As regards patentability the Opposition Division found *inter alia* that

- the claims according to all the pending requests complied with the requirements of Articles 84 and 123(2) and (3) EPC;

- the subject-matter of claim 1 according to the then pending main request was novel over document (1) since this document, even if read in combination with the teaching of document (11), did not contain any disclosure of a crystalline alkali metal silicate having the average particle size required in the attacked claim 1;

- example 2C of document (6) disclosed an alkaline composition having necessarily a bulk density above 650 g/l and comprising a surfactant, a metal ion capturing agent, citric acid and NaSKS-6, a crystalline alkali metal silicate, wherein the NaSKS-6 had a particle size falling within the range of claim 1; moreover, the method of preparation used led to a mixture of acidic and basic particles which were very close to each other but could still be individualised and separated;

- since the claimed composition did not require as an essential feature any "distance" between the acidic

particles and the crystalline basic particles but required only the presence of these two kinds of particles, the subject-matter of claim 1 according to the main request lacked novelty over example 2C of document (6);

- the subject-matters of each claim 1 according to the then pending first to fourth auxiliary requests also lacked novelty in the light of the disclosure of document (6);

- the subject-matters of each claim 1 according to the then pending fifth to ninth auxiliary requests were considered instead to be novel.

As regards the inventive step of the subject-matters of each claim 1 according to the then pending fifth to ninth auxiliary requests, the Opposition Division found that

- document (6) represented the closest prior art;

- the technical problem underlying the invention could be seen in the provision of a particulate detergent composition having higher storage stability and higher washing power;

- however, the better detergency of the inventive compositions over the so-called comparative ones shown in the examples of the patent in suit could not be considered to be caused by the features distinguishing the claimed invention from the compositions of document (6); therefore, the technical problem underlying the invention had not been credibly solved;

- since it would have been obvious for the skilled person to modify the composition of example 2C by following the teaching of document (6), thereby arriving at a composition as claimed, each claim 1 according to the then pending fifth to ninth auxiliary requests lacked an inventive step.

IV. An appeal was filed against this decision by the Patent Proprietor (Appellant).

The Appellant submitted with the statement of the grounds of appeal a set of claims according to the main request which was identical to the set of claims according to the main request considered by the department of first instance and further sets of claims according to the first to sixth auxiliary requests. Moreover, it submitted a supplementary test report based on Example 2C of document (6).

The Appellant submitted with the letter of 30 June 2008 further sets of claims according to the seventh to thirteenth auxiliary requests.

V. In response to the statement of the grounds of appeal, the Respondent and Opponent 02 requested with the letter of 26 February 2007 that documents (13), (14) and (15) be introduced into the proceedings and that the appeal be dismissed because

- the main request contravened Article 123(2) EPC, lacked novelty over documents (6), (13) and (14) and lacked inventive step and

- the auxiliary requests did not overcome the problems with the main request.

Respondent 02 referred in its letter only in general to the submissions filed during the opposition proceedings and requested an extension of time for filing a full response.

In a further letter of 27 April 2007 Respondent 02 informed the Board that it did not wish to say anything further at that point but maintained the requests submitted with the letter of 26 February 2007.

VI. The Respondents 01 and 02 (Opponents 01 and 02) communicated with a fax of 24 June 2008 and a letter of 13 March 2008, respectively, that they did not intend to attend the oral proceedings scheduled by the Board.

Oral proceedings were held before the Board on 30 July 2008 in the absence of both Respondents 01 and 02.

VII. Claim 1 of the set of claims according to the main request reads as follows:

"1. A granular detergent composition for clothes washing comprising surfactant, a metal ion capturing agent, a crystalline alkali metal silicate, and an acidic ingredient, wherein said granular detergent composition comprises at least two different granules: a first granule containing the crystalline alkali metal silicate, and a second granule, which is an acidic granule, containing the acidic ingredient, the crystalline alkali metal silicate and the acidic ingredient being present in different granules to

prevent neutralization reaction from taking place, wherein said first granule has an average particle size of from 150 to 1000 μm , and wherein said granular detergent composition shows alkaline property in distilled water at 25°C and has a bulk density of 650 g/l or more."

The dependent claims 2 to 12 relate to specific embodiments of the claimed granular detergent composition.

VIII. As regards claim 1 according to the main request the Appellant submitted in writing and orally *inter alia* that

- the wording of claim 1 makes clear that the term "different granules" implies that the crystalline alkali metal silicate and the acidic ingredient are not present in one and the same granule; moreover, the term "acidic ingredient" is explained in the description of the patent in suit and does not include a fatty acid as used in the preparation of the crystalline alkali metal silicate granules according to the examples of the patent in suit;

- the claimed subject-matter is novel over document (6) since example 2C relates to a composition containing an intimate mixture of the crystalline alkali metal silicate and of the acidic ingredient involving a thorough distribution of the basic silicate particles with the acidic ones within one and the same granule;

- moreover, document (6) does not contain any explicit information as to the particle size of the crystalline

alkali metal silicate contained in the compositions of comparative examples 2B and 3 (product no. 2), which do not comprise an intimate mixture of the acidic and basic particles; in fact, the crystalline alkali metal silicate was commercially available as a powder having a particle size below 100 μm or as particles of greater particle size which are, however, fragile and could be broken down during the preparation of the detergent composition to smaller particles having a size under 100 μm ; therefore, document (6) does not contain any direct and unambiguous disclosure of the particle size of the crystalline alkali metal silicate in the final products of examples 2B and 3 (product no. 2).

As regards inventive step the Appellant submitted that

- starting from the teaching of document (6), the skilled person would not have had any reason for departing from the teaching of this document, which requires the presence of the acidic ingredient and the crystalline alkali metal silicate in one granule, and to prepare instead a composition containing separate granules of these components in order to improve the washing power;

- moreover, as explained in the description of the patent in suit, the selection of the particle size of the crystalline alkali metal silicate in the final composition is important for preventing the neutralization of the silicate with the acidic ingredient and for improving the washing power;

- therefore, the claimed subject-matter involves an inventive step.

The Appellant submitted also that Respondent 02's reply to the statement of the grounds of appeal referred only in general to letters submitted during the proceedings before the first instance department without referring specifically to the Appellant's arguments setting out the grounds of appeal or explaining in detail the objections intended to be raised; therefore, this reply to the appeal had not been substantiated.

IX. Respondent 01 submitted in writing that

- the wording of claim 1 according to the main request does not limit the claimed subject-matter from the disclosure of document (6) since the term "different granules" does not exclude an embodiment wherein both particles of the acidic component and of the crystalline alkali metal silicate are contained individually in one granule as in the product of example 2C of document (6);

- moreover, the patent in suit shows in its examples that the crystalline alkali metal silicate granules can contain themselves an acidic component;

- furthermore, example 3, product no. 2, of document (6) relates to an alkaline composition having a bulk density which has to be within the range of claim 1 and not disclosing an intimate mixture of the acidic ingredient and the crystalline alkali metal silicate as in example 2C but only a dry mixture of the two components, the crystalline alkali metal silicate having a particle size as required in the patent in suit;

- therefore, the subject-matter of claim 1 according to the main request lacks novelty over the disclosure of document (6).

Respondent 01 submitted also *inter alia* that the claims according to all the auxiliary requests do not involve an inventive step.

X. The Appellant requests that the decision under appeal be set aside and that the patent be maintained on the basis of the main request or, in the alternative, on the basis of any of the first to sixth auxiliary requests, all of them submitted with the statement setting out the grounds of appeal, or on the basis of any of the seventh to thirteenth auxiliary requests, all of them submitted with the letter dated 30 June 2008.

XI. The Respondents requested in writing that the appeal be dismissed.

Reasons for the Decision

1. *Main Request*

1.1 Article 123(2) EPC and admissibility of documents (13) to (15).

1.1.1 Respondent 02 did not submit a full response to the statement of the grounds appeal but referred only in general to letters submitted before the department of first instance (see point V above) and, as pointed out

by the Appellant, did not refer specifically to the Appellant's arguments setting out the grounds of appeal or explained in detail the objections against the pending Appellant's requests.

- 1.1.2 According to Article 12(2) RPBA the statement of the grounds of appeal and the reply shall contain a party's complete case. They shall set out clearly and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld, and should specify expressly all the facts, arguments and evidence relied on.

It is also established jurisprudence of the Boards of Appeal of the EPO that a statement of grounds which merely refers generally to submissions made in the first instance proceedings is not considered sufficient (see Case Law of the Boards of appeal of the EPO, 5th edition, 2006, page 625, VII.D.7.5.4 and T 349/00 point 2 of the reasons).

By analogy a reply to the statement of the grounds of appeal referring generally to submissions made in the first instance proceedings cannot be considered to represent a substantiated party's complete case.

Therefore, the Board cannot consider the Respondent 02' submissions to represent a party's complete case as requested by Article 12(2) RPBA.

The Board concludes that all the points raised in general by Respondent 02 have not been substantiated.

1.1.3 Since Respondent 02 did not give any reasons to support its objection under Article 123(2) EPC and the admissibility of the documents (13) to (15), late filed during the opposition proceedings and not admitted or not considered by the opposition division (see points II and III above), the Board does not see any reason to deviate from the decision of the department of first instance that the claims according to the main request comply with the requirements of Article 123(2) EPC and that documents (13) to (15) should not be considered.

1.1.4 For the same reasons given in point 1.1.2 above the following discussion upon the novelty and inventive step of the claimed subject-matter cannot take into account the Respondent 02' objections and is only based on the arguments of the other parties to the proceedings.

1.2 Novelty

1.2.1 Claim 1 according to the main request relates to a granular laundry detergent composition comprising *inter alia* two different granules:
a first granule containing the crystalline alkali metal silicate, and a second granule, which is an acidic granule, containing the acidic ingredient, the crystalline alkali metal silicate and the acidic ingredient being present in different granules to prevent neutralization reaction from taking place, wherein said first granule has an average particle size of from 150 to 1000 μm .

It has been submitted by Respondent 01 that the wording of the claim and, in particular, the wording "the crystalline alkali metal silicate and the acidic ingredient being present in different granules" would include an embodiment wherein the crystalline alkali metal silicate and the acid ingredient are present in different granules which are both contained in one and the same granule of greater particle size.

According to the established jurisprudence of the Boards of Appeal of the EPO a claim has to be construed ruling out interpretations which are illogical and do not make technical sense and the interpretation to be used should be technically sensible and take into account the whole disclosure of the patent (see Case Law of the Boards of appeal of the EPO, 5th edition 2006, II.B.5.1).

As explained in the description of the patent in suit, the neutralization reaction between the crystalline alkali metal silicate and the acidic ingredient can proceed if they are both present within the same granule (paragraph 19); therefore, the granular detergent composition is prepared by after-blending these two types of ingredients as completely separate granules, each of the ingredients being contained in different granules in the detergent composition (paragraph 20).

Therefore, the Board finds that the above mentioned wording of claim 1 can only be interpreted as relating to a composition wherein the crystalline alkali metal silicate and the acidic ingredient are contained in distinct and separate granules which are after-blended

and cannot be contained together in one and the same granule.

Moreover, the Board remarks that, even though the granule containing the crystalline alkali metal silicate can contain fatty acids as shown in example 1 of the patent in suit (page 13, paragraph 97, in particular line 13), such acids are not an acidic ingredient according to the meaning of the patent in suit, the acidic ingredient being one having acidic properties when dissolved in distilled water (paragraph 74), this definition not including fatty acids which are compounds very sparsely soluble in water.

Therefore, in the Board's view, the granules of crystalline alkali metal silicate according to claim 1 cannot contain an acidic ingredient as intended in the patent in suit and these two ingredients must be present in distinct and separate granules.

- 1.2.2 Document (6) discloses in example 2C (page 38) a detergent composition comprising a crystalline alkali metal silicate particulate prepared in a similar manner to the particulate compositions of example 1, which particulate compositions comprise NaSKS-6 (crystalline alkali metal silicate) and citric acid (acidic ingredient).

Example 1 refers to two distinct methods of preparation. Method (a) (paragraph bridging pages 37 and 38) involves mixing the alkaline and the acidic ingredients in order to form an intimate mixture of the two powders and then compacting them to give a flake which is hammer milled and sieved to give particles having a

mean particle size of 600 μm . As explained in the description of document (6) (page 6, lines 31 to 32), it was found necessary for that invention to mix thoroughly these two ingredients in order to provide a thorough distribution of one with the other.

It is thus clear that the method of preparation (a) leads necessarily to the formation of granules containing **both** the crystalline alkali metal silicate and the acidic ingredient in contact with each other, which embodiment is excluded from the wording of claim 1 according to the main request which requires the presence of distinct and separate granules of both ingredients.

Method (b) of example 1 (page 37) requires that the intimate mixture of alkali metal silicate and acidic ingredient is sprayed with a nonionic surfactant, compacted into a flake and hammer milled to give particles having an average size of 600 μm , which particles comprise necessarily both ingredients.

Therefore, the Board concludes that example 2C does not anticipate the subject-matter of claim 1.

Since it was found necessary for the invention of document (6) to mix thoroughly the crystalline alkali metal silicate and the acidic ingredient in order to provide a thorough distribution of one with the other in one granule, also the other embodiments of the invention of document (6) disclosed in example 3 or referred to in the claims (see e.g. claims 1 and 9) relate necessarily to compositions containing **both** the

crystalline alkali metal silicate and the acidic ingredient in contact with each other in one granule.

Therefore, also these disclosures cannot anticipate the subject-matter of claim 1.

- 1.2.3 Document (6) discloses additionally some comparative compositions prepared by dry-mixing NaSKS-6 and citric acid without the granulation or compacting step of example 1 (example 3, product no. 2) or containing a basis granulate comprising an acidic ingredient (a copolymer of maleic/acrylic acid) and a separate granule of NaSKS-6 without acidic ingredient (example 2B).

As admitted by the Appellant, NaSKS-6 was commercially available at the priority date of the patent in suit as a powder having a particle size certainly smaller than 150 μm or as particles of 150 to 1000 μm as indicated also on page 5, lines 25 to 26 of document (6). However, the description of document (6) does not disclose explicitly the particle size of the NaSKS-6 granules in the compositions of the above mentioned comparative examples.

Moreover, the method of preparation of the above discussed example 1 (which concerns only the intimate mixtures of crystalline alkali metal silicate and acidic ingredients and not the comparative examples) makes use of a crystalline alkali metal silicate **powder** having a particle size below 300 μm (page 36, last but one line and page 7, line 3) and the description suggests to use in the disclosed invention powders

having a particle size **below 100 μm** (page 9, lines 5 to 9).

Furthermore, it was known that the crystalline alkali metal silicates of greater particle size are fragile and break down easily into particles having a size of less than 100 μm (see document (6), page 2, lines 9 to 16 and page 5, lines 26 to 28).

It is thus not possible to derive from the information contained in document (6) the final particle size of the crystalline alkali metal silicate in the compositions of the comparative examples cited above.

The Board concludes that document (6), already on these grounds, does not contain a direct and unambiguous disclosure of the subject-matter of claim 1 according to the main request.

1.2.4 Since no other documents had been found to destroy novelty in the decision of the department of first instance or were cited by Respondent 01 against the novelty of the claimed subject-matter, the Board concludes that the subject-matter of the claims according to the main request is novel over the cited prior art.

1.3 Inventive step

1.3.1 The subject-matter of claim 1 according to the main request relates to an alkaline laundry granular detergent composition having a bulk density of at least 650 g/l, comprising surfactant, a metal ion capturing agent, a crystalline alkali metal silicate and an

acidic ingredient, wherein the crystalline alkali metal silicate and the acidic ingredient are contained in distinct and separate granules, the granule containing the crystalline alkali metal silicate having an average particle size of from 150 to 1000 μm (see points VII and 1.2.1 above).

As explained in the description, high bulk density laundry detergents had at the priority date of the patent in suit generally a composition comprising a surfactant, an alkalizing agent and a metal ion capturing agent, wherein the surfactant was added to dissolve dirt stains, the alkalizing agent was added to accelerate the elution of fatty acids which are present in sebum dirt stains, the swelling of fibres and the dispersion of the dirt stains, and the metal ion capturing agent was added to remove water hardness-increasing components, such as calcium and magnesium ions (paragraph 2).

Moreover, crystalline alkali metal silicates were known alkalizing agents having an alkalizing ability equivalent to or higher than that of the conventional amorphous alkali metal silicates and also a good metal ion capturing ability. Therefore, they were considered to be attractive alternative base materials (paragraph 5).

It was also known that the most significant effect of the alkalizing agent was the dissolution of stains, such as sebum dirt stains derived from human bodies, by saponification of the fatty acids contained in the sebum dirt stains and that water hardness-increasing components of calcium or magnesium ions present in the washing liquid formed a scum with these fatty acids,

thereby lowering their solubility and preventing the dissolution or dispersion in the washing liquid. The patent in suit had thus found that a higher degree of alkalization caused a faster scum formation and that sufficient washing performance could not be exhibited by the conventional detergent compositions containing a crystalline alkali metal silicate having a high degree of alkalization (paragraph 10).

Therefore, the technical problem underlying the invention was formulated in the description as the provision of a granular laundry detergent composition comprising such crystalline alkali metal silicates and having a superior washing power (paragraph 11).

- 1.3.2 Document (6) was chosen by the Appellant, by Respondent 01 and by the department of first instance as the best starting point for the evaluation of inventive step.

The Board has no reason for departing from this choice and takes also document (6) as starting point in its evaluation of the inventive step.

- 1.3.3 As shown in the examples of the patent in suit, detergent compositions in accordance with claim 1 have a better washing performance than similar compositions prepared in such a way that the crystalline alkali metal silicate and the acidic ingredient are contained within the same granule (see table 1 on pages 17 to 19); moreover, the supplementary test report submitted with the statement of the grounds of appeal shows that the washing performance of a detergent composition similar to that of example 2C of document (6), wherein the

crystalline alkali metal silicate and the acidic ingredient are contained within the same granule, is worse than that of a similar composition in accordance with claim 1 of the patent in suit.

Furthermore, the description of the patent in suit states that the compositions of the invention have improved detergency against sebum dirt stains and that the selection of a particle size of crystalline alkali metal silicate granules of at least 150 μm supports the prevention of the neutralization reaction between the granules containing the crystalline alkali metal silicate and the granules containing the acidic ingredient by reducing the contact area of the granules containing the crystalline alkali metal silicate and the acidic granules, and, consequently, the improvement in detergency (paragraph 28). In fact, as explained in the description, such a neutralization reaction would reduce the amount of acidic ingredient present in the composition and would affect the crystalline structure of the alkali metal silicate, thereby rendering impossible to raise the initial pH during washing at the desired level and to achieve a good detergency (paragraph 19).

Therefore, the Board is satisfied that the technical problem underlying the invention has been convincingly solved by means of a composition having all the technical features of claim 1.

- 1.3.4 Document (6), disclosing granular detergent compositions differing from that of claim 1 of the patent in suit insofar as the crystalline alkali metal silicate and the acidic ingredient are in one and the

same granule (see point 1.2.2 above), teaches that the crystalline alkali metal silicates provide localised regions of high pH during the wash cycle which could damage fabrics or dyes and that this drawback can be overcome by using an intimate mixture of the crystalline alkali metal silicate with an acidic ingredient (page 2, lines 18 to 27). In fact, the comparative compositions wherein this intimate mixture is not used show worse results in terms of colour damage (see example 2B vs. example 2C or example 3, product no. 2 vs. product no. 3).

This intimate mixture is formed by mixing powders of the crystalline alkali metal silicate and the acidic ingredient, compacting the powders into a flake product and then hammer milling the flake product to give granules having the desired particle size and containing a thorough distribution of the crystalline alkali metal silicate with the acidic ingredient (see page 6, lines 26 to 32; page 9, lines 5 to 23; example 1).

Therefore, the Board finds that this document would have led the skilled person away from preparing a granular detergent composition having the acidic ingredient and the crystalline alkali metal silicate in distinct and separate granules.

- 1.3.5 Document (1), cited incidentally in the decision under appeal, concerns the addition of separate acidic granules to high bulk density granular detergent compositions in order to improve their redispersibility in water, thereby reducing the amount of residues left in the drawer of a washing machine (page 1, lines 1 to 9 and page 2, lines 5 to 9).

Moreover, this document, which does not deal with the same technical problem as the patent in suit, does not require or suggest the presence of granules containing a crystalline alkali metal silicate and having an average particle size of from 150 to 1000 μm , a crystalline alkali metal silicate being only an optional component of the compositions of document (1) (see page 7, lines 14 to 19).

Therefore, the skilled person would not have found in this document any hint that would have prompted him to depart from the teaching of document (6) and to use instead distinct and separate granules of the crystalline alkali metal silicate and the acidic ingredient, the granules containing the crystalline alkali metal silicate having an average particle size of from 150 to 1000 μm , with the expectation of improving the washing power.

- 1.3.6 The Board concludes that the subject-matter of claim 1 according to the main request involves an inventive step.

The same applies *mutatis mutandis* to all other claims.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance with the order to maintain the patent on the basis of the main request submitted with the statement setting out the grounds of appeal and a description to be adapted.

The Registrar:

The Chairman:

G. Rauh

P.-P. Bracke