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**D E C I S I O N**  
**of 24 July 2002**

**Case Number:** T 0695/96 - 3.3.5

**Application Number:** 90304175.4

**Publication Number:** 0407003

**IPC:** B01J 19/06

**Language of the proceedings:** EN

**Title of invention:**  
Gelling composition

**Patentee:**  
H.A. MILTON HOLDINGS PTY. LTD.

**Opponent:**  
UNILEVER PLC / UNILEVER NV

**Headword:**  
Gelling composition/MILTON

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

**Keyword:**  
"Inventive step - yes, cited documents did not represent  
closest prior art and their relevance was not apparent without  
hindsight"

**Decisions cited:**  
-

**Catchword:**  
-



Case Number: T 0695/96 - 3.3.5

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.5  
of 24 July 2002

**Appellant:** H.A. MILTON HOLDINGS PTY. LTD.  
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**Representative:** Baker, Colin John  
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**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 21 May 1996  
revoking European patent No. 0 407 003 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** R. K. Spangenberg

**Members:** G. J. Wassenaar  
M. B. Günzel

## Summary of Facts and Submissions

- I. The appeal is from the decision of the Opposition Division to revoke European patent No. 0 407 003, which was granted in response to European patent application No. 90 304 175.4.

The decision under appeal was based on a set of claims filed with the letter dated 26 March 1996. The only independent claim 1 read as follows:

"A composition comprising an aqueous solution of polyvalent cations thickened or gelled by a synergistic mixture of finely divided or fumed silica and a surfactant, wherein said polyvalent cations are aluminium ions."

- II. During the opposition proceedings, inter alia, the following documents were cited:

D1: EP-A-0 011 984

D5: GB-A-1 572 032

D6: American Perfumer and Cosmetics, Vol. 81 (1966), pages 51-52.

The Opposition Division held that the subject-matter of said claims was obvious for a person skilled in the art in view of D5 and D6. They considered that D5 represented the closest prior art and that starting from D5 the technical problem to be solved was to modify the gelling system disclosed in D5 such that a stable gel of controllable viscosity could be obtained from an aqueous solution of aluminium ions. D5 disclosed that the gelling rate of aqueous acids can be increased by applying a surfactant in addition to fumed

silica. From D6 the skilled person got the further incentive to select the combination of fumed silica and a surfactant. No reasons were apparent why a skilled person would not apply the general teachings of combining fumed silica with a surfactant in order to improve gelling properties to an aluminium ion containing solution. No surprising effects were present to support an inventive step.

III. In the statement of the grounds of appeal the appellant argued that the opposition was inadmissible because it was based on the same prior art and the same arguments as those already considered during the examination of the patent application. During oral proceedings, which were held on 24 July 2002, it was admitted that the opposition against the patent as granted was admissible initially but that after the amendments made by the appellant the continuation of the opposition was inadmissible in view of the respondents' acknowledgement that the subject-matter of the amended claims was novel and overcame an acknowledged difficulty. With respect to inventive step it was essentially argued that in the past it was not possible to gel aqueous solutions of aluminium cations without using very high levels of fumed silica and that the patent proprietor had surprisingly discovered that the addition of a surfactant resulted in a dramatic increase in the viscosity of aqueous solutions comprising aluminium cations and fumed silica so that the amount of fumed silica could be reduced which was essential for use of these thickened solutions in cosmetics. This phenomenon was neither known nor obvious from D5 or D6. Moreover it was not obvious to combine these citations because they related to different technical fields. A textbook copy was filed

as attachment 1 to illustrate the influence of the polarity of a medium on the increase in viscosity attainable with Aerosil 200. A table with new experiments showing the effect of the addition of a surfactant was also filed. Later in the proceedings further textbook copies and a further table with additional experimental results were filed. In the letter dated 24 November 1999 it was argued that the respondents were two legal persons and since only one opposition fee was paid the opposition had no legal effect so that the patent in suit should have remained unamended as granted. With the letter dated 8 July 2002 new sets of claims as auxiliary requests, A1 to A4, were submitted.

- IV. The respondents maintained their inventive step objections and argued that the use of a surfactant to enhance the gelling properties of fumed silica were disclosed in both D5 and D6. Evidence was submitted to show that "Hostapur SAS 60" mentioned in D5 was a surfactant. It was further argued that D5 and D6 related to similar technical fields and were readily combinable. Moreover, there was no synergistic effect in using both fumed silica and a surfactant. It was further submitted that the limitation in the claims to the gelling of aqueous solutions comprising aluminium ions was contrary to the provisions of Article 123(2) EPC. With respect to the admissibility of the opposition it was argued that nothing in the EPC prevented the revocation of a patent on the basis of the same prior art taken into consideration by the Examining Division which granted the patent. Moreover D6 was not considered in the examination proceedings. The new auxiliary requests submitted with the appellant's letter dated 8 July 2002 were not filed in

due time and should not be admitted.

V. During the oral proceedings, wherein the respondents, as announced in their letter dated 22 July 2002, were not represented, no new grounds or evidence were submitted.

VI. The appellant (patentee) requested that the decision under appeal be set aside and that the patent be maintained with claims 1 to 9 filed with the letter dated 26 March 1996. As auxiliary requests the appellant requested that the patent be maintained with the claims of any of the requests A1 to A4 filed with the letter dated 8 July 2002, taken in their numerical order.

The respondent (opponent) requested in writing that the appeal be dismissed.

### **Reasons for the Decision**

1. The appeal is admissible.

2. *Admissibility of the opposition*

2.1 Concerning the admissibility of joint oppositions, the Enlarged Board of Appeal decided in decision G 0003/99 of 18 February 2002 (to be published in OJ EPO) that an opposition filed in common by two or more persons, which otherwise meets the requirements of Article 99 EPC and Rules 1 and 55 EPC, is admissible on payment of a single opposition fee. The appellant has not provided grounds why this decision would not apply in the present case.

2.2 Once an admissible opposition has been filed the opponents may continue the opposition if their requests are not completely allowed. In this case the respondents' original request in their grounds of opposition that the opposed patent be revoked in full has never been withdrawn. As long as the respondents maintain that the subject-matter of the amended claims lacks an inventive step, as in this case, it is irrelevant for the course of the opposition whether they would have admitted that it solved an existing problem.

2.3 For these reasons the Board holds that the opposition is admissible.

3. *Amendments*

The subject-matter of claim 1 (the only independent claim) of the main request is a selection of a specific composition according to claim 2 as granted. The amendment, therefore does not broaden the scope of protection so that no objections under Article 123(3) EPC arise. Although the original application was directed to the thickening and gelling of aqueous solutions of polyvalent cations in general, it contained several references and examples to solutions containing aluminium ions so that the present limitation to aqueous solutions of aluminium ions is based on the application as originally filed (page 2, lines 16-21; page 3, lines 6-9 and lines 31-35; Table 3, pages 8-9, Examples 1, 12, 16 and 17). The amendments in claim 1 are thus in conformity with Article 123(2) EPC.

4. *Novelty and inventive step (claim 1 of the main*



*request*)

- 4.1 None of the cited documents discloses in combination all the features of claim 1. The subject-matter of claim 1 is thus new. The novelty of present claim 1 was, in fact, not contested.
- 4.2 In the contested decision D5 was taken as the closest prior art. D5 discloses the use of fumed silica in combination with a surfactant for gelling acids but is silent about aqueous solutions of polyvalent cations such as aluminium ions. Also D6 does not mention such solutions. In the Board's view, therefore, these documents are not a suitable starting point for an inventive step analysis of a claim limited to a composition comprising an aqueous solution of aluminium ions. Although no prior art document has been presented disclosing an aqueous solution of aluminium ions, it is uncontested and acknowledged in the patent in suit (page 2, lines 13-23), that such solutions are well known in the art and are used in cosmetics. Further according to the patent in suit it was also known that such solutions gel poorly with fumed silica and require high concentrations in excess of 10% by weight of fumed silica to obtain a gelling action (page 2, line 51 to page 3, line 7). According to the appellant's submissions compositions comprising more than 10% by weight of silica are not suitable for cosmetics and personal care products, the intended use of the claimed compositions (patent in suit, page 2, lines 12-13 and lines 17-20). In view of these uncontested statements, starting from aqueous solutions comprising aluminium ions, the problem underlying the invention can be seen in providing a thickened or gelled aqueous solution of aluminium ions suitable for cosmetics and personal care

products. In agreement with present claim 1 it is proposed to solve this problem by providing a thickened or gelled aqueous solution comprising aluminium cations and a mixture of fumed silica and a surfactant as gelling agent. According to Table 3 (pages 6 and 7) of the patent in suit it is possible to increase the viscosity of an aqueous solution of 20% aluminium sulphate comprising 6% fumed silica (Aerosil 200) to above 1000 cps with various surfactants. The Board is, therefore, satisfied that compositions according to claim 1 actually solve the above-mentioned problem. The appellant has demonstrated that the thickening effect by the combination of silica and surfactant is higher than the effect of silica or surfactant alone (appellant's letter of 4 June 1999, Table 2). Since the respondents have not provided any evidence for their dissenting opinion, the Board also accepts the presence of a synergistic effect.

- 4.3 Since none of the prior art documents on file is actually concerned with the said problem, they cannot provide a direct hint to the claimed solution.

As already indicated above, D5 concerns the gelling of aqueous acids. These are intended to be used as pickling agent or for all kinds of cleaning purposes, such as the cleaning of heavy goods vehicles, railway carriages, metal and stone facades and swimming pools (page 1. lines 7-10). None of the compositions mentioned in the examples, comprising high amounts of strong acids, are suitable as cosmetics or personal care products. Even the composition of Example 5, a denture cleaning gel comprising 10% w/w of concentrated hydrogen chloride and 10% w/w of Aerosil 200, cannot reasonably be considered as a personal care product.

Thus apart from the fact that D5 does not contain the slightest indication for solutions comprising aluminium cations, it does not relate to the kind of products in which a skilled person, trying to solve the above-mentioned problem, is interested in. Moreover, although D5 discloses that a surfactant increases the rate of gel formation, it does not indicate that by using the surfactant the amount of silica can be reduced to obtain the same viscosity. Example 5 of D5, the only one in which a surfactant is used, is silent with respect to the function of the surfactant. Thus it is not only unlikely that a skilled person will look into D5 for a solution of the above-mentioned problem, it also does not clearly suggest the solution as now claimed.

- 4.4 D6, an article in a cosmetics journal published in 1966, describes the functions of fumed silica in cosmetic-drug products. One of its uses disclosed therein is the use as a thickener and thixotropic agent. In respect therewith it is indicated that in compositions comprising polar solvents, such as alcohols, use of nonionic surfactants in conjunction with the silica drastically reduces the percentage of silica otherwise needed but that in non-polar systems, such as mineral oil or petroleum, the efficiency of the silica normally is high enough without a surfactant (left column of the first page). Although water is a polar solvent, it occupies such a unique place amongst liquids that it is normally explicitly mentioned if it is actually meant to be included. In view of the explicit reference to alcohols and the absence of a reference to water, the Board doubts that a skilled person would have inferred from the context of D6 that water was intended to be included by the expression

"polar solvents, such as alcohols". Thus the Board is unable to derive from D6 a clear incentive to use fumed silica as a thickener in aqueous solutions. Moreover, as stated above, the present technical problem is not a general problem of gelling an aqueous solution, but concerns solutions containing high concentrations of aluminium ions, which, according to the uncontested statement in the patent in suit, were known to gel poorly with fumed silica as the sole gelling agent (page 3, lines 4-7). No suggestion, however, is derivable from D6 to use fumed silica together with a surfactant to gel aqueous solutions comprising considerable amounts of aluminium cations.

4.5 The respondents argued that D5 was readily combinable with D6 since they both related to silica thickened solutions. The use of silica, however, is part of the solution of the problem and the relevance thereof for solving the above-mentioned problem has only become apparent after knowledge of the invention. For the skilled person trying to solve the above-mentioned problem there was no reason to combine D5, lacking any reference to cosmetics, with D6. The respondents' argument is thus based on hindsight. Moreover, whether or not it was obvious to combine the teachings of D5 and D6 is irrelevant because in this case there is no reason why the skilled person would have seriously considered any of these documents with a view to solve the above-mentioned technical problem.

4.6 D1 discloses thixotropic abrasive liquid scouring compositions comprising insoluble abrasive particles, water, a surfactant, a bleaching agent, an electrolyte, a light density filler and a multivalent stearate soap as gelling agent. The multivalent metal stearate soaps

are water-insoluble (page 5, lines 2-10). Although they comprise aluminium stearates they do not provide aluminium cations because of their insoluble nature. The electrolyte functions as a buffering agent to maintain a pH of from 10.5 to 14 and may comprise alkaline earth salts (page 7, lines 26-30). The composition may also include a bodying agent providing some of the viscosity of the composition and may comprise amongst others fumed silica (page 8, lines 8-15). The bleaching agent may be alkaline earth hypochlorites and the preferred bleaching agents are sodium hypochlorite and monobasic calcium hypochlorite when utilized in combination with sodium silicate or sodium carbonate to form sodium hypochlorite in situ (page 9, lines 7-10 and page 11, example 2). D1 does not disclose compositions comprising aluminium cations and because of the high pH, the compositions also do not contain substantial amounts of chemically similar multivalent metal ions. Thus D1 provides no information about the thickening of aqueous solutions comprising substantial amounts of aluminium cations. Therefore, no incentive for the present solution of the above-mentioned problem can be derived from D1, or from a combination of its content with that of D5 and/or D6.

4.7 The other prior art documents on file do not provide an incentive for the claimed solution either. Since they are not relied on in the appeal proceedings there is no need to discuss them here.

5. For these reasons the Board holds that the subject-matter according to claim 1 of the main request involves an inventive step. The inventiveness of the subject-matter of claims 2 to 9 follows from their dependency upon claim 1. The description is not yet in

agreement with the present claims and should be amended for proper adaptation.

## Order

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

1. The decision under appeal is set aside.
2. The case is remitted to the Opposition Division with the order to maintain the patent with claims 1 to 9 (main request) filed with the letter dated 26 March 1996 and a description to be adapted.

The Registrar:

The Chairman:

P. Martorana

R. Spangenberg