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**D E C I S I O N**  
**of 2 August 2005**

**Case Number:** T 0396/02 - 3.3.7

**Application Number:** 95911274.9

**Publication Number:** WO 95/24180

**IPC:** A61K 7/06

**Language of the proceedings:** EN

**Title of invention:**  
Hair Conditioning Composition

**Patentee:**  
UNILEVER PLC/UNILEVER N.V.

**Opponents:**  
(01) KPSS-Kao Professional Salon Services GmbH  
(02) Henkel Kommanditgesellschaft auf Aktien

**Headword:**  
-

**Relevant legal provisions:**  
EPC Art. 83, 111(1)

**Keyword:**  
"Sufficiency of disclosure - measuring of viscosity - yes"

**Decisions cited:**  
T 0213/83, T 0378/97, T 0245/98, T 0960/98

**Catchword:**  
-



Case Number: T 0396/02 - 3.3.7

**D E C I S I O N**  
**of the Technical Board of Appeal 3.3.7**  
**of 2 August 2005**

**Appellant:** UNILEVER PLC  
(Proprietor of the patent) Unilever House Blackfriars  
London EC4P 4BQ (GB)

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**Representative:** Tansley, Sally Elizabeth  
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**Respondents:** KPSS-Kao Professional Salon Services GmbH  
(Opponent 01) Pfungstädter Strasse 92-100  
D-64297 Darmstadt (DE)

(Opponent 02) Henkel Kommanditgesellschaft auf Aktien  
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D-40589 Düsseldorf (DE)

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 12 March 2002  
revoking European patent No. 0749299 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** R. E. Teschemacher  
**Members:** B. J. M. Struif  
P. A. Gryczka

## Summary of Facts and Submissions

I. The mention of the grant of European patent No. 0 749 299 with respect to European patent application No. 95 911 274.9 originating from international patent application No. PCT/EP95/00717 filed on 25 February 1995 was published on 15 December 1999. The granted patent was based on seven claims. Independent claims 1 and 5 in the version of the printed patent specification read as follows.

"1. A rinse off hair conditioning composition substantially free from anionic surfactant comprising:

(a) 0.05 to 5% by weight of cationic surfactant selected from cetyl trimethylammonium chloride, behenyl trimethyl ammonium chloride and mixtures thereof,  
(b) 0.01 to 10% by weight of an emulsion polymerised dimethiconol nonionic conditioning polymer having the formula:



where n is greater than 2700, and

(c) water, wherein the viscosity of the dimethiconol lies in the range 1-20 million cst."

"5. A method for preparation of a rinse off conditioning composition which contains a cationic surfactant and insoluble silicone having a molecular weight above 200 000 and a viscosity of greater than 1 million cst as the conditioning agent comprising the steps of forming the silicone into an emulsion, the emulsion having a viscosity of less than 1000 cps, then

mixing the emulsion with the other conditioner ingredients including the cationic surfactant."

II. Two notices of opposition were filed against the granted patent, in which revocation of the patent in its entirety was requested with respect to lack of novelty, lack of an inventive step, insufficient disclosure (opponent 01 and 02) and extension of the original disclosure (opponent 01), on the grounds of Article 100 paragraphs (a), b) and (c) EPC. During the proceedings before the opposition division *inter alia* the following documents were cited:

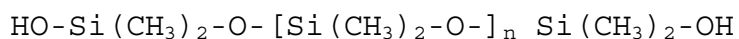
D1: EP-A-0 268 982

D5: Extract from "Encyclopedia of Polymer Science and Engineering, second ed. 1989, vol. 15, (John Wiley Sons), pages 204, 245-249, 303.

D6: Dow Corning, "Think Dow Corning Silicones for Personal Care", Brochure No. 22-1200A-01, 1991

D8: Römpp Chemie Lexikon, 9th ed. 1992, Georg Thieme publisher, pages 4937 to 4938

III. In a decision posted on 12 March 2002, the opposition division revoked the patent. That decision was based on the version of the patent as granted according to the text approved by the proprietors in response to the communication under 51(4) EPC. In that version the formula of claim 1 read as follows:



IV. The opposition division held that:

- (a) The correction of the error in the formula of claim 1 of the patent specification was allowed. The term "and mixtures thereof" in granted claim 1 was based on the original description. Thus, the requirements of Article 123(2) EPC were met.
- (b) Although document D8 was late filed, it was considered to be *prima facie* highly relevant for the discussion of the opposition ground under Article 100 paragraph (b) EPC and was admitted into the proceedings.
- (c) As regards sufficiency of disclosure, the patent in suit did neither disclose the measuring method nor the temperature at which the viscosity should be determined. The viscosity was a decisive feature, since it influenced the conditioning effect. The exemplified substances "X2-1766" and "X2-1784" were neither specified nor was a supplier indicated.
- (d) According to D8, viscosity was only sufficiently disclosed if the measuring temperature was indicated. In particular, both types of viscosity (kinematic and dynamic) were strongly dependent on the temperature. Even if the temperature of the viscosity measurement was ambient temperature, this provided only a vague indication. According to D5, the viscosity of silicones varied in the range of about 20% if measured at 25 or 50°C. Although there might be a relationship between the molecular weight of silicones and their viscosity,

the degree of cross-linking could also have an influence. Thus, the requirements of Article 83 EPC were not met.

- V. On 18 April 2002, the proprietor (appellant) filed a notice of appeal against the above decision, the prescribed fee being paid on the same day. The statement setting out the grounds of appeal was filed on 10 July 2002.
- VI. In a communication of 24 May 2005, the board addressed the points to be discussed during the oral proceedings.
- VII. By letter dated 19 July 2005, the appellant withdrew its request for reimbursement of the appeal fee and submitted the following documents:
- D9: Dow Corning New Product Information, Dow Corning®  
1784 HVF Emulsion, 25 August 1992 (2 pages)
- D10: M. and I. Ash: Handbook of COSMETIC AND PERSONAL CARE ADDITIVES, 1994, Gover Publishing Limited, Aldershot, England, page 120
- VIII. Oral proceedings were held on 2 August 2005.
- IX. The appellant argued as follows:
- (a) The error in the formula of claim 1 of the published patent specification was not present in the text approved by the proprietor in response to the communication under Rule 51(4) EPC. Such printing errors should be corrected as a matter of routine by the EPO.

- (b) The objection on the ground of insufficiency concerned clarity, which was not an opposition ground. Suitable high viscosity gums and emulsion polymerized silicones were known. Component (b) of the claimed composition was prepared by emulsion polymerization technique as generally indicated in the patent in suit. Emulsion polymerization was different from mechanical emulsifying a pre-prepared polymer. However, the emulsion polymerized dimethiconol of claim 1 was not necessarily present in the form of a microemulsion. Silicones falling within the definition of component (b) as claimed were commercially available as shown by D9. For carrying out the invention, the skilled person would approach suppliers for providing suitable silicones with the required molecular weight and viscosity.
- (c) The viscosity of silicones was specified in different brochures of Dow Corning without any indication of the measuring temperature so that the skilled person would assume that the measurement was effected at ambient temperature. In addition, the effect of temperature on the viscosity of silicones was small.
- (d) The onus of proof that the skilled person was unable to prepare or get the silicones required as in component (b) of the claimed composition lay with the opponents, which they had not discharged.
- (e) The situation of claim 5 was similar to that of claim 1. The skilled person who could use for

example silicones mentioned in D9 as starting material, was well aware under which specific conditions an emulsion having a viscosity of less than 1000 cps was produced from that starting material. The respondents had not provided any evidence that the skilled person would be faced with insurmountable difficulties when trying to reproduce the claimed process nor had they shown that the claimed emulsions could not be prepared.

- (f) Since the decision underlying the appeal did not address novelty and inventive step, the case should be remitted to the opposition division for further prosecution.

X. The respondents argued as follows:

- (a) D9 had been submitted at a late stage and should not be admitted into the proceedings. In addition, the product Dow Corning® HLV 1784 emulsion according to D9 was not the same as the product "X2-1784" indicated in the patent in suit. According to a telephone conversation of respondent 02 with Dow Corning, the indication "X2-" related to test products, which were not commercially available. In that respect, the respondent 02's representative in the oral proceedings offered himself to be heard as witness. It could not be derived from D9 that the dimethiconol described therein was obtained by emulsion polymerization or that it had the specified molecular weight. Thus, D9 did not disclose a dimethiconol falling under the definition of component (b) as claimed.



Furthermore, the patent in suit did not disclose how such emulsion polymerized dimethiconols defined as component (b) could be prepared. Specific process conditions, not specified in the patent in suit, were necessary to prepare those products.

- (b) Even if dimethiconol products in accordance with component (b) as claimed were commercially available, the skilled person did not get any information from the patent in suit at which temperature the viscosity should be measured. According to general knowledge, the viscosity was strongly dependent on the measuring temperature and the method for measuring the viscosity.
  
- (c) The same kind of arguments presented with respect to claim 1 applied *mutatis mutandis* to the process according to claim 5. No details were given in the description of the patent in suit how that process should be carried out. The skilled person was left without guidance with respect to the type of starting silicone material, the emulsifying agent, the amounts thereof, the particle sizes or the temperature to be used. Since, according to claim 5, an emulsion having a viscosity of 1000 cps had to be produced as an intermediate product which was further processed into a conditioning composition, problems of compatibility of the pre-emulsion with the final composition might arise. Consequently products could be obtained which were not suitable to solve the problem underlying the patent in suit.

XI. The appellant requested that the decision under appeal be set aside and that the European patent be maintained as granted with the text of the claims approved by the proprietor in response to the communication under Rule 51(4) EPC and to remit the case to the opposition division for further prosecution, if sufficiency of disclosure was accepted.

XII. The respondents requested that the appeal be dismissed, auxiliarily they agreed with the appellant's request for remittal.

### **Reasons for the Decision**

1. The appeal is admissible.
2. The basis for this decision is the patent as granted. The basis for the decision to grant is the text approved by the proprietor in response to the communication under Rule 51(4) EPC.

#### *Late filed documents*

3. Although documents D9 and D10 were not submitted within the time limit of 1 month before the oral proceedings, the respondents were in a position to present their arguments on these documents and did not argue that they had any difficulties in that respect. Furthermore, these documents were found relevant to elucidate the question of sufficiency of disclosure. Hence, they are admitted into the proceedings (Article 114(1) EPC).

*Insufficiency*

4. The only subject of the appeal proceedings is sufficiency of disclosure. The decision under appeal had only dealt with sufficiency of disclosure of granted claim 1 but did not address sufficiency of disclosure of independent claim 5 as granted. The board found it appropriate to exercise its discretion in that respect and to address also the question whether or not process claim 5 is sufficiently disclosed. Hence, the board decided on the objections under Article 100 paragraph (b) EPC as a whole rather than deciding only whether or not the reasons underlying the decision under appeal have been overcome.

*Claim 1*

- 4.1 Granted claim 1 refers to a rinse off hair conditioning composition which comprises *inter alia* a methiconol defined by the feature:

"an emulsion polymerised dimethiconol nonionic conditioning polymer having the formula:



... wherein the viscosity of the dimethiconol lies in the range 1-20 million cst" (claim 1).

- 4.2 The essence of the respondents' argument regarding lack of disclosure is that the hair conditioning composition could not be reproduced because the exemplified dimethiconols in the patent in suit were not commercially available and that the patent specification did not provide any further information

how to measure the viscosity, since the temperature had not been specified and none of the examples of the patent specification provided any data with respect to those parameters.

- 4.2.1 The question arises whether or not the patent in suit provides sufficient information which enables the skilled person when taking into account common general knowledge to reproduce component (b) as defined in the hair conditioning compositions of claim 1.

The dimethiconol is defined in the patent in suit by a specific formula and a minimum number of recurring units which corresponds to a minimum molecular weight of over 200 000 (see patent in suit, page 2, line 32). Furthermore, it is specified that the dimethiconol is produced by emulsion polymerization. Dimethiconols which are silicone gums were known and described before the priority date of the patent in suit for example in D1 (page 2, lines 5 to 10). According to the patent in suit, dimethiconol can be prepared in various ways, one of which is emulsion polymerisation (page 2, paragraph 0006). Hence, the patent in suit acknowledges that dimethiconols used as component (b) of claim 1 are known and can be produced by known processes.

D1 discloses emulsion polymerized dimethylpolysiloxane microemulsions having a polymerization degree of 3 to 5000 (claim 2). The terminal end groups of said dimethylpolysiloxanes may consist of hydroxy groups as required by claim 1 of the patent in suit (page 2, lines 34 and 35). According to example 2 of D1, a hydroxyl-terminated dimethylsiloxane having a degree of polymerization of 1200 is prepared. Since the number of

recurring units in D1 may be as high as 5000 as required by claim 1, D1 describes a process for preparing emulsion polymerized dimethylsiloxanes, including dimethiconols falling within the definition of component (b) of claim 1 of the patent in suit.

4.2.2 The average particle size of the dimethiconol polymer according to component (b) is less than 20 microns, in particular less than 2 microns (granted claims 2 and 3). Furthermore, the microemulsion according to D1 is specified as exhibiting average particle sizes of less than 0.15 microns (page 2, lines 27 to 32), which particle size is within the range of less than 20 microns specified in claim 2 of the patent in suit. Consequently, D1 also describes emulsion polymerized dimethiconols having the average particle size required by the patent in suit.

4.3 Suitable compositions in accordance with claim 1 are described in the examples which include silicone products specified as "X2-1766" and "X2-1784" (page 3, Table 1). These products are specified to be a "60% silicone emulsion polymer having a molecular weight of 300 000" and a "50% silicone emulsion polymer having a molecular weight of 240 000", respectively.

4.4 In this respect, the respondents argued that these products were not commercially available.

4.4.1 The respondent's argument that compounds with the denomination X2- were not commercially available is in contradiction with D10 where a Dow Corning product "X2-1669" is listed as an available product for cosmetics. Furthermore, the respondent 02's representative in the

oral proceedings submitted that, according to silicone suppliers which he had contacted, the exemplified products "X2-1766" and "X2-1784" were not available to the public at the filing date. However, the representative did not ask the silicone suppliers whether products other than those exemplified fulfilling the requirements of feature (b) of claim 1 were available or could be produced on demand.

- 4.4.2 In order to show that dimethiconol compounds required by claim 1 of the patent in suit were available to the skilled person, the appellant filed document D9. D9 concerns a high viscosity silicone fluid in water emulsion containing dimethiconol and TEA-dodecylbenzenesulfonate as an anionic emulsifier. The solids content is 50% and the internal phase viscosity is about 1 million centipoise. Larger quantities of that product were commercially available on demand. The brochure was published on 25 August 1992 so that the product could be ordered from Dow Corning before the priority date of the patent in suit. The numbers "1784" of the HVL emulsion in brochure D9 is identical with the last four numbers of the product "X2-1784" cited in the patent in suit. Furthermore, the solids content thereof is identical with that indicated in footnote 7 of Table 1. In addition, the internal phase viscosity of about 1 000 000 cps is within the range of the viscosity as claimed. It was not contested that the internal phase viscosity referred to the viscosity of the dimethiconol product as such and that the viscosity indicated in "cps" given in D9 does not differ substantially from the viscosity expressed by the unit "cst" according to the patent in suit.

4.5 In reply, the respondents argued that the brochure D9 did not indicate the molecular weight of the dimethiconol and that it was not produced by emulsion polymerization according to the requirements for component (b) in claim 1 of the patent in suit.

4.5.1 It is not contested that the viscosity of the silicone polymers has a specific relation to the molecular weight. This relation is also confirmed by D5, Fig. 8 (page 248) showing the effect of the molecular weight on the viscosity of linear methyl silicones. According to the patent in suit, a silicone having a molecular weight above 200 000 also has a viscosity of greater than 1 million cst (page 3, line 6). Thus, an indication of the viscosity of about 1 million cps in D9 was in line with such a molecular weight. This conclusion is in conformity with the information given in the patent in suit that product "X2-1784" has a molecular weight of 240 000 (page 3, Table 1, footnote 7).

4.5.2 As regards the emulsion polymerisation, the respondent has not argued that this process feature provides any substantial effect on the dimethiconol as such. Thus, it has not been shown that the process feature "emulsion polymerisation" is of importance for defining the dimethiconol. Furthermore, in line with the patent in suit the product "X2-1784" was specified as emulsion polymer.

4.6 From the above it follows that the patent in suit mentions prior art documents, in particular D1, according to which processes are known producing emulsion polymerized dimethylsiloxanes, including

- dimethiconols having a molecular weight within the definition of component (b) of claim 1. Furthermore, in accordance with D9 dimethiconols similar to those as defined by component (b) according to claim 1 were already commercially available at the filing date.
- 4.7 In addition, the respondents have neither submitted any verifiable facts that dimethiconols as defined by component (b) of claim 1 were not available to the skilled person at the filing date for example by showing that silicone suppliers were unable to provide emulsion polymerized silicones with the required molecular weight and viscosity nor any experimental evidence that such silicones could not be reproduced by the skilled person without undue burden. The onus of proof in respect of insufficiency of disclosure lies however with the respondents (opponents), which they have failed to discharge (T 219/83, OJ EPO 1986, 211). Even if it had been established that the exemplified dimethiconol products of the patent in suit were not commercially available at the filing date, this would not allow the conclusion that there were no dimethiconols available which fall under the definition of claim 1. Thus, a hearing of the offered witness in that respect would not have had any effect on the decision.
- 4.8 The respondents also argued that it was necessary to indicate the conditions for measuring viscosity, in particular the temperature in order to reproduce a composition within the ambit of the claims.
- 4.8.1 It is common general knowledge and it has been uncontested that the measuring conditions, in particular the temperature and the viscosimeters used



to measure the viscosity, influence the results.  
According to D8, the temperature must always be stated when measuring viscosity (page 4939, left column).

- 4.8.2 The respondents did neither argue nor provide evidence that the skilled person had difficulties in measuring the viscosity at suitable temperatures by using suitable viscosimeters. Neither did they show that viscosity values within the claimed range and obtained by usual methods of measurement resulted in unsuitable products. The respondent's objections regarding the details lacking in the patent specification rather concern the determination of the limits of protection but not the possibility of the skilled person reproducing the claimed compositions. They argued that the skilled person had no guidance in the patent in suit to determine whether he worked within the scope of claim 1, in particular when considering the limits of the claimed viscosity range. Varying results which will be obtained when using different temperatures or different measuring methods do not, however, necessarily disable a person skilled in the art to carry out the invention (compare T 378/97 of 6 June 2000, not published in OJ EPO) but, instead, could be a matter of definition of the invention in the sense of Article 84 EPC. This view is confirmed by decision T 245/98 of 11 October 2002 (not published in OJ EPO) accepting sufficiency for a detergent composition which specifies the viscosity of a component without stating the measuring conditions, in particular the temperature. Such a situation is comparable to the present case. Since Article 84 is not a ground of opposition, the board has no power to decide on this issue in view of

the fact that the claims as granted remain unamended in this respect.

- 4.8.3 Decisions T 378/97, *supra* and T 245/98, *supra* make a clear distinction between the requirements of Articles 83 and 84 EPC. Objections relating to clarity of the claim are not sufficient to put in question the enabling disclosure under Article 83 EPC. The absence of a specific measuring method in the patent in suit is, in itself, not prejudicial to sufficiency under Article 83 EPC. In the absence of any specific indications, the claims imply that any known method suitable for the determination of the parameters in question can be used.

*Claim 5*

5. As regards the availability of the starting silicone materials as used in method claim 5, and the measuring conditions of its viscosity, the reasons of point 4 above apply *mutatis mutandis* to claim 5 as well. Although the definition of the silicone starting material in claim 5 is broader than in claim 1, an emulsion polymerized dimethiconol can be used according to claim 7 so that silicones disclosed in D1 are also suitable starting materials. The respondents have not shown that silicones having a molecular weight and a viscosity other than dimethiconols having the specified formula of claim 1 were not available or could not be reproduced without undue burden. With respect to the production of silicones other than dimethiconols of specified formula according to claim 1, reference is made for example to D1, claim 2 and page 2 lines 34 and 35.

- 5.1 Furthermore, the respondents argued that no details were given in the description of the patent in suit, specifying how the process of claim 5 should be carried out.
- 5.2 In the communication of the board, sufficiency of disclosure has been addressed as an issue to be discussed during the oral proceedings also with respect to claim 5 (see communication, point 2.2). Neither within the time limit set nor at the oral proceedings have the respondents established any verifiable facts showing that the skilled person was unable to reproduce method claim 5. Thus it has not been shown which insurmountable difficulties the skilled person had to overcome when preparing an emulsion having a viscosity of 1000 cps from the starting silicone. Such evidence is also lacking with respect to the alleged difficulties of compatibility of the pre-emulsion, from which the final hair conditioning composition should be formed. As already indicated under point 4.7 above, the onus of proof in that respect lies with the respondents.
6. From the above it follows that a case of insufficient disclosure within the meaning of Article 100(b) EPC has not been established.
7. Since the decision under appeal dealt only with the objection under Article 100(b) EPC and since remittal to the first instance was requested by the parties, if sufficiency of disclosure was accepted, the board exercises its power to remit the case to the opposition division for further prosecution with respect to the outstanding substantive issues, to give the parties the

opportunity to defend their case before two instances  
(Article 111(2) EPC).

## **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 for further prosecution.

The Registrar:

The Chairman:

C. Eickhoff

R. Teschemacher