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**Datasheet for the decision  
of 21 March 2012**

**Case Number:** T 0768/08 - 3.3.07  
**Application Number:** 02737882.7  
**Publication Number:** 1383472  
**IPC:** A61Q 5/12, A61K 8/25  
**Language of the proceedings:** EN

**Title of invention:**

Hair treatment compositions comprising silicones

**Applicants:**

Unilever PLC  
Unilever N.V.

**Headword:**

-

**Relevant legal provisions:**

EPC Art. 84

**Keyword:**

"Clarity of the claims - claim with product-by-process features - information available in the application which could enable the applicant to define the product satisfactorily by reference to its composition and structure (yes) - claim allowable (no) "

**Decisions cited:**

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**Catchword:**

G 0002/88, T 0002/80, T 0150/82, T 0409/91, T 1279/04,  
T 0956/04, T 0300/89, T 0552/91, T 0129/88, T 0939/99,  
T 0661/01



Case Number: T 0768/08 - 3.3.07

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.07  
of 21 March 2012

**Appellants:**  
(Applicants 01)

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**Appellants:**  
(Applicants 02)

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**Representative:**

-

**Decision under appeal:**

**Decision of the Examining Division of the  
European Patent Office posted 21 November 2007  
refusing European patent application  
No. 02737882.7 pursuant to Article 97(2) EPC.**

**Composition of the Board:**

**Chairman:** J. Riolo  
**Members:** G. Santavicca  
D. T. Keeling

## Summary of Facts and Submissions

- I. The appeal by the applicants lies from a decision of the Examining Division, posted on 21 November 2007, refusing European patent application 02 737 882.7.
- II. The application originates from international application PCT/EP02/02748 (international publication number WO 02/096375 A2) filed on 13 March 2002 and claiming priority from EP 01 303 267.7 of 6 April 2001 (withdrawn before publication). The application as filed comprised 14 claims, Claim 1 reading as follows:
- "1. A hair treatment composition containing a silicone component comprising droplets of silicone blend, the silicone blend comprising
- (i) from 50 to 95% by weight of the silicone component of a first silicone having a viscosity of at least 100,000 mm<sup>2</sup>/sec at 25°C, and
  - (ii) from 5 to 50% by weight of the silicone component of a second silicone which is functionalised."
- III. The decision under appeal was based on a set of amended claims 1 to 13, of which Claims 6-13 were submitted with letters of 11 January 2005 and Claims 1-5 faxed on 14 February 2006. Claim 1 underlying the decision under appeal read as follows (Compared to Claim 1 as filed, additional features are indicated in bold, deleted features in strike-through).

"1. A hair treatment composition containing a silicone component comprising droplets of silicone blend, the silicone blend ~~comprising~~ **consisting essentially of**

- (i) from 50 to 95% by weight of the silicone component of a first silicone ~~having a viscosity of at least 100,000 mm<sup>2</sup>/sec at 25°C,~~ and
- (ii) from 5 to 50% by weight of the silicone component of a second silicone which is functionalised,

**in which the first silicone is a gum and has a viscosity of at least 500,000 mm<sup>2</sup>/sec at 25°C."**

IV. In the decision under appeal, it was held that:

- (a) Having regard to D3 (WO 99/44565), the hair treatment composition of Claim 1 comprised pre-blended silicones, i.e. was defined by the process feature of pre-blending the silicone components.
- (b) According to the Guidelines (CIII, 4.7b), claims for products defined in terms of processes for their preparation ("product-by-process" claims) were admissible only if the products themselves were new and inventive pursuant to Article 52 EPC.
- (c) So it was to be established that the feature of pre-blending the silicone components resulted in a new product.
- (d) The evidence submitted by the applicants did not afford any proof. The quantities of the ingredients were not disclosed in Annex A submitted with fax of 14 May 2007, which also failed to establish correspondence between Composition A of the application as filed and the compositions illustrated by the examples of D3. The compositions identified as comparative and

inventive in the annex to the fax of 8 November 2007 differed in at least 3 features, i.e. not only in the pre-blending feature, the bar graph was unclear and the test conditions were not given, so no conclusions could be drawn from the graph. The argument that post-blended particles of silicone (as in D3) would not coalesce spontaneously because they were stabilised electrostatically was a mere allegation, not supported by documents and data.

- (e) Therefore, it had not been proven that the claimed compositions were different from those of D3, so novelty and inventive step could not be acknowledged.
- (f) The patent application was thus to be refused.

V. With their statement setting out the grounds of appeal, the appellants submitted Annexes I to V.

VI. In a communication by the Board in preparation for oral proceedings, in which the points that needed to be debated and decided were indicated, a number of new issues were raised by the Board *inter alia* under Article 123(2) as well as under Articles 83 and 84 EPC. Also, the Board indicated that novelty needed to be discussed anew, not only over D3. A new document (D9) (EP-A-0 095 238) was annexed to the communication, to show that the commercial emulsions mentioned in the application included non insubstantial amounts of further silicones, so that the silicone blend could not essentially consist of first and second silicone.

VII. In response, the appellants asked for a postponement of the oral proceedings, in order to carry out further

- comparative tests, submitted a new Main Request and two auxiliary requests and requested that inventive step be dealt with only after remittal to the first instance.
- VIII. In a second communication, dated 21 November 2011, the Board accepted the request to postpone the oral proceedings, raised objections under Article 84 EPC against all of the new claims requests and pointed out that novelty was a crucial issue.
- IX. With letter of 21 February 2012, the appellants replaced all of the requests on file with a new Main Request, enclosed further experimental evidence (Annex) over D3 and offered further arguments on the issue of novelty.
- X. In a third communication faxed on 15 March 2012, the Board raised objections under Articles 84 and 123(2) EPC against the new Main Request (in particular against the maximum and minimum weight ratio of first silicone and second silicone).
- XI. With letter of 16 March 2012, faxed on the same day, a final Main Request replacing all of the previous requests was submitted.
- XII. Oral proceedings took place on 21 March 2012. The Board objected the clarity of Claim 1 having regard to the addition of process features and *inter alia* pointed to the fact that since the first silicone could be functionalised and the second silicone might have any viscosity, the only distinction between them resided in the terms "first" and "second". After the closure of

the debate and deliberation by the Board the decision was announced orally.

XIII. Claim 1 of the final Main Request read as follows  
(Compared to Claim 1 as filed, additional features are indicated in bold, deleted features in strike-through):

"1. A hair treatment composition containing, **as the internal phase of an emulsion which itself constitutes the hair treatment composition**, a silicone component, ~~comprising droplets of silicone blend~~ **the silicone component being provided as a single blend, and the single blend being in the form of an aqueous emulsion which is added to the composition during the manufacture**, the silicone blend comprising

(iii) from 50 to 95% by weight of the silicone component of a first silicone having a viscosity of at least 100,000 mm<sup>2</sup>/sec at 25°C, and

(iv) from 5 to 50% by weight of the silicone component of a second silicone which is functionalised,

**and wherein the weight ratio of the first silicone to the second silicone in the silicone component is from 6:1 to 2:1."**

XIV. The appellants essentially argued as follows:

(a) The final Main Request was filed in response to the third communication by the Board, in order to overcome the objections raised therein. It had been faxed in advance of the oral proceedings, and thus was admissible.

- (b) In particular, the incompatible limitations to the ratio of first and second silicones had been cancelled, the internal phase and the single blend had been defined more precisely by reference to their description. The additional features relating to the mechanical emulsion had not been inserted, however, because it was clear that mechanical emulsions were contrasted with chemical emulsions, whereas spontaneous emulsions were not contemplated. So all of the raised objections had been overcome.
- (c) As regards the inclusion of process steps in Claim 1, it was an attempt to reflect the disclosure of the single blend as given in the illustrative embodiment of the description. Thus, the skilled person understood what was meant by single blend, because that term had been used and illustrated in the description. Also, the terms "first" and "second" made clear that the silicones were different.
- (d) In particular, the skilled person understood that the claimed hair treatment composition, when prepared as stated, was novel, which fact was shown in the annexes and comparative examples submitted.
- (e) In fact, an emulsion of pre-blended silicones (Annex IV) provided a particle size distribution similar in shape to that of the amino-silicone (Annex I) but shifted towards larger particles (peak at around 350-400 nm).
- (f) In contrast thereto, a mixture of amino-silicone and silicone gum (Annex V) had a very different particle size distribution with several peaks



being clearly identifiable at around 150 and 900 nm.

- (g) Accordingly, a mixture of silicone emulsions could not be the same as an emulsion of a mixture of silicones. The particles of the pre-blended emulsion comprised elements of amino-silicone and silicone gum whereas the post-blended mixture was merely a mixture of amino-silicone particles and silicone gum particles.
- (h) According to the invention, the problem of over-conditioning caused by too much amino-silicone deposition was solved by pre-blending the amino-silicone with silicone gum, in order to create an emulsion of particles, each having amino-silicone and silicone gum in them, to prevent competitive deposition between amino-silicone and gum silicone but to allow enough of each silicone to be deposited to provide their respective benefits.
- (i) When emulsions of silicones were formulated into shampoos or conditioners, their stability prevented any intermixing between the particles. So an emulsion with different particles remained an emulsion with different particles, whereas an emulsion with particles comprising two different pre-blended and pre-emulsified silicones remained an emulsion of particles containing two silicones.
- (j) Therefore, the decision to reject the application was not correct.

XV. The appellants requested that the decision under appeal be set aside and that the case be remitted to the first instance for further prosecution on the basis of the single set of claims submitted with letter of 16 March 2012.

## **Reasons for the Decision**

1. The appeal is admissible.

### *Admissibility of the sole claims request*

2. The present claims request was submitted on 16 March 2012 by fax, i.e. some days before the oral proceedings. However, this submission is in reaction to the latest communication by the Board dated 15 March 2012, in which the claims of the previous requests had been objected to as *inter alia* lacking clarity (Article 84 EPC). The present claims request does not raise any new issues which the Board could not reasonably be expected to deal with during the oral proceedings. Hence, the claims request has been admitted.

### *Amendments*

3. Claim 1 of the final Main Request is based on Claim 1 of the application as filed and includes further features having their respective basis in the application as filed, as follows:
  - (a) "as the internal phase of an emulsion which itself constitutes the hair treatment composition" is disclosed as such in the paragraph bridging pages 5 and 6 of the application as filed;
  - (b) "the silicone component being provided as a single blend" is disclosed as such in lines 17 and 18 of page 5;
  - (c) "the single blend being in the form of an aqueous emulsion which is added to the composition during

the manufacture" is disclosed as such in lines 23 and 24 of page 5; and

- (d) "the weight ratio of the first silicone to the second silicone in the silicone component is from 6:1 to 2:1" is disclosed as such on page 6, lines 17 and 18.

Pages 5 and 6 of the application as filed relate to the general disclosure of the invention. Therefore, also the new combination of features has a basis in the application as filed.

- 3.1 Therefore, Claim 1 of the Main request fulfils the requirements of Article 123(2) EPC.

#### *Clarity*

- 3.2 Process steps, such as the features "the silicone component being provided as a single blend", "the single blend being in the form of an aqueous emulsion" and "which is added to the composition during the manufacture", which were not present in Claim 1 of the previous claims requests, have been included in Claim 1, which concerns a composition of matter, to define the internal phase of that composition of matter.
- 3.3 Since Claim 1 attempts to define the internal phase of the composition of matter, a hair treatment composition, hence the hair treatment composition, by reference to features of the process of its manufacture, i.e. it contains product-by-process features, it has to be decided whether Claim 1 fulfils the requirements of clarity stipulated by Article 84 EPC, in particular having regard to the product-by-process features used.

- 3.4 Before dealing with the objections under Article 84 EPC, it is worth recalling the principles underlying the requirements of clarity under Article 84 EPC for claims for products defined in terms of the process of their manufacture, e.g. product-by-process claims.

*Principles underlying the requirements of clarity under Article 84 EPC, in particular as regards product-by-process claims*

4. The second sentence of Article 84 EPC stipulates that the claims must be clear (Principle of clarity).
- 4.1 The principle of clarity established by Article 84 EPC is an aspect of a broad general principle of law, i.e. legal certainty, namely the requirement that e.g. legal texts be clear and precise, which conveys the idea of predictability (scope and purpose of the text must be predictable).
- 4.2 As established in G 2/88 (OJ EPO 1990, 93, Point 2.5 of the Reasons), as regards drafting and amending claims in respect of inventions which are the subject of European patent applications and patents, the principle of clarity requires that the wording used must be such as to define the matter for which protection is sought in terms of technical features of the invention, having regard to the particular nature of the invention, having regard also to the purpose of the claims. The purpose of the claims is to determine the protection conferred by the patent (Article 69 EPC), and consequently the rights enjoyed by the patent proprietors, having regard to the patentability requirements of Articles 52 to 57 EPC. Still according

to G 2/88 (*supra*), the technical features of the invention are the physical features which are essential to it. As regards a claim to a physical entity, the technical features are the physical parameters of the entity, which in appropriate cases may be defined functionally. Hence, a primary purpose of the claim is to permit, in order to assess the patentability requirements, a comparison with the available state of the art (Point 7 of G 2/88, *supra*).

4.3 Although the breadth of a claim does not necessarily imply a lack of clarity, it is nevertheless subject to a further aspect of the principle of legal certainty, the requirement of proportionality, namely the weighing up and balancing of the contribution to the art and the sought-for scope of protection, i.e. the defined scope must be commensurate to the contribution to the art. Hence, the allowable breadth of a claim and the relevant extent of the patent monopoly, as defined by the claim, should correspond to the technical contribution to the art, thus to the invention as disclosed in the description (T 409/91, OJ EPO 1994, 653, Point 3.3 of the Reasons). This implies that if a claim does not contain all of the features which are essential to the definition of the invention, it is not supported by the description (Article 84 EPC).

4.4 Already since decision T 2/80 of 5 June 1981 (OJ EPO 1981, 431) (Point 2 of the Reasons, last sentence), it is established case law (*supra*, C.II.B.5.3.5, page 286) that the principle of clarity stipulated by Article 84 EPC requires that it must be possible to understand the claims without reference to the description. Hence, as regards clarity, reliance to the description, or to

Article 69 EPC, cannot be considered as a substitute for an amendment which would remove the lack of clarity. This is especially applicable in examination proceedings, where the value of future legal certainty is paramount. Hence, as established in the case law (*supra*, C.II.B.5.3.5, in relation to T 1279/04), amendments rather than protracted arguments should be the answer to genuine difficulties of interpretation, in particular in examination proceedings.

- 4.5 Chemical substances may be defined by scientific designations, chemical formulae (explicitly foreseen in Rule 49 EPC), physical and structural features, properties as well as by the process of their manufacture (product-by-process claims). Hence, as regards clarity, for each chemical substance, the question arises as to which of these formulations of definition can unambiguously define the sought-for subject-matter and how the claim should enable the claimed subject-matter to be distinguished from the prior art.
- 4.6 Product-by-process claims fulfil the need of defining chemical substances (such as macromolecules, complex compositions), which cannot be defined by their structure but, by way of the process of their manufacture. The justification for that kind of claim lies in the acknowledgement that the inventor is rewarded, not because of the theoretical explanation of the structure of the product but, for making available the manufacture of the claimed product (Münchener Gemeinschaftskommentar, 7th edition, May 1985, Article 84 EPC, Notes 107-109, which *inter alia* cites the BGH decision "*Trioxan*", published in GRUR 1972, 80).

- 4.7 However, as correctly mentioned in the said Münchner Gemeinschaftskommentar (*supra*, Note 108, which *inter alia* states that the Guidelines do not set any clarity restricting conditions on the drafting of product-by-process claims, with reference the opinion expressed by *Bühling* in GRUR 1974, 299), it is established case law of the Boards of Appeal of the EPO (C.II..B.6.1, 6.2 and 6.3), since T 150/82 (OJ EPO 1984, 309), that the choice of a product-by-process format for drawing up a claim is not at the free disposal of the applicants, unless two specific conditions are fulfilled:
- (a) the claimed product itself fulfils the patentability requirements (which implies that a new and inventive process for manufacturing a known product cannot be used to define the known product with a product-by-process claim) (established case law, *supra*, C.II.B.6.2); and,
  - (b) there is no other information available in the application for satisfactorily defining the claimed product by reference to its composition, structure or testable parameters (established case law, *supra*, C.II.B.6.3, in particular T 956/04 of 17 January 2008, not published in the OJ EPO, Point 3.2 of the Reasons).
- 4.8 According to T 150/82 (*supra*) (Point 10 of the Reasons, last sentence), the requirement that "the form for a claim to a patentable product as such defined in terms of a process of manufacture (i.e. product-by-process claims) should be reserved for cases where the product cannot be satisfactorily defined by reference to its composition, structure or some other testable

parameters" was to be established "**in order to minimise uncertainty**" (emphasis added by the Board).

4.9 As regards the requirement that the claimed product itself fulfils the patentability requirements, it implies that all of the specific process conditions (such as starting materials and reaction or formulation or preparation conditions), needed to necessarily obtain the claimed product, as inevitable process product, whose novelty could then be established by e.g. comparative tests, should be defined by a product-by-process claim (case law, *supra*, C.II.B.6.2, in particular with reference to T 300/89 (OJ EPO 1991, 480), T 552/91 (OJ EPO 1995, 100) and T 956/04, *supra*, Points 3.5.3 to 3.5.5, 3.6.7, 3.7 and 3.8). Therefore, for such a claim to be clear, the product-by-process features should make it possible to establish the distinctions of the inevitable product of the product-by-process claim over the prior art.

4.10 A combination of product and process features in a product claim is permissible (Case Law, II.B.6.4). However, as regards the process-by-product features, the criteria developed in T 150/82 (*supra*) apply (case law, *supra*, C.II.B. 6.4, e.g. T 129/88 (OJ EPO 1993, 598), Points 2.2.1 to 2.2.4 of the Reasons).

*Lack of clarity (Article 84 EPC)*

5. Claim 1 concerns a hair treatment composition, i.e. a composition of matter, in the form of an aqueous emulsion, the internal phase of which (i.e. the phase dispersed in the continuous water phase) comprises a silicone component. Claim 1 does not define precisely



what the silicone component is, but indicates that it is provided as a single blend, in the form of an aqueous emulsion, which is added to the composition during manufacture. Also the term "single blend" is not defined as such (i.e. what kind of blend is meant). The weight percentages and ratios of the silicones comprised in the single blend are specified, which however can only relate to the those used in the preparation of the blend.

- 5.1 The alleged contribution to the art by the claimed composition, as gathered from the application as filed (page 3, lines 13-15), is the provision of intimate blends of combinations of silicones which result in individual particles comprising a mixture of silicones. This alleged contribution was to be contrasted to the known, separate addition of emulsions of each of the constituent silicone components to the hair composition (page 3, lines 15-18).
- 5.2 It is apparent from the above that the alleged contribution relies on a particular intimacy of the combination of silicones, such as to result in individual particles comprising an intimate mixture of silicones. However, neither any degree of intimacy of the blend nor any constitution of the individual particles of the internal phase is defined in Claim 1.
- 5.3 Moreover, still from the application as filed, in particular from the detailed description of the alleged invention, it can be gathered that:
  - (a) The single blend may simply be in form of a silicone mixture which can be added to the

composition during manufacture (page 5, lines 19-21).

- (b) It is however preferred that the single blend be in the form of an aqueous emulsion which is added to the composition during manufacture (page 5, lines 23-25).
- (c) Pre-formed aqueous emulsions of silicone may have advantages in that they themselves may be easier to handle or process than the raw silicone ingredients of the silicone component (page 5, lines 25-28).
- (d) When the silicone present in the composition is added as an already homogenised mixture, it will be present in the hair treatment composition as a homogeneous mixture of silicones (page 6, lines 4-7). That is, each silicone droplet in the composition will have essentially the same composition and will comprise a mixture (typically a solution) of the two types of silicone which together make up the silicone component of the composition, i.e. first silicone and second silicone (page 6, lines 7-12).

5.4 It follows from the foregoing that:

- (a) aqueous emulsions of the silicone ingredients may be used, i.e. may be put together, e.g. in form of a single emulsion, which will then contain a single blend of silicones; or, more particularly,
- (b) the silicones may firstly be blended (pre-blending step) and homogenised, then the homogenised pre-blend can be emulsified, in order that each droplet essentially has the same composition. Finally, that pre-homogenised and pre-emulsified single blend in form of an aqueous emulsion is added to the final composition during manufacture.

- 5.5 Hence, the term "single blend" of Claim 1 encompasses not only an aqueous emulsion of pre-blended, homogenised and pre-emulsified silicones but also an aqueous emulsion obtained from blending two separate pre-emulsified silicone ingredients into a single aqueous emulsion, the internal phase of which will be made up of the silicone ingredients in their respective droplet form, hence of a single blend of silicones, in controlled particle sizes, uniformly dispersed in the emulsion, suitable to be added to the final composition.
- 5.6 The attempt by the appellants to reduce the breadth of the term "single blend" of Claim 1 to a pre-blended, homogenised and pre-emulsified silicone blend, hence to each particle of the emulsion containing a mixture or a solution of the silicones, as illustrated in the description of the application as filed (*supra*), amounts to reading additional features and limitations into Claim 1, not explicitly specified as such in Claim 1, but presented as features of a particular embodiment of the alleged invention only in the description, in order to avoid an objection of lack of novelty. This improper claim interpretation is not allowable, as established in the case law (*supra*) (C.II.B.5.3.4, for instance with reference to T 939/99 and T 681/01).
- 5.7 Also, in the present case, although the silicones themselves are polymers, the clarity of the definition at issue relates to the way of blending and emulsifying them, for the purpose of cosmetic preparations, not to their structure, however complex it may be. Cosmetic preparations containing emulsified silicones are well

known, as apparent from the prior art cited in the search report, in particular from D3 mentioned in the decision under appeal. In this field, the emulsions and compositions are normally defined by their structure and properties. Hence, already for those reasons, a product-by-process definition is likely to render difficult any comparison with the prior art. In fact, as shown by the file history of the present case, despite the comparative tests provided, the crux of the decision under appeal still lies in the difficulty of assessing novelty over the prior art, e.g. D3.

- 5.8 Above all, in the present case, the claimed composition, in particular its internal phase, can be defined structurally by reference to the constitution of each of the droplets, as illustrated in the description of the application as filed (*supra*), in order to make clear where the alleged distinctions from the prior art lie. For this very reason Claim 1 must be refused for lack of clarity under Article 84 EPC, in compliance with the second requirement set by T 150/82.
- 5.9 In view of this decision, the further objections under Article 84 EPC raised by the Board need not be pursued in the present decision.
- 5.10 As apparent from the foregoing, Claim 1 lacks any process features relating to the steps of pre-blending and homogenising the silicones before emulsifying them in form of an aqueous emulsion. Hence, even if a product-by-process definition were the only way of defining the composition, the question whether that lack of definition of essential steps inevitably led to the claimed product, i.e. whether Claim 1 lacks clarity

under Article 84 EPC, would arise. However, still in view of the above decision, this question also need not be dealt with.

5.11 Therefore, the sole claims request maintained by the appellants is not acceptable.

**Order**

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

The appeal is dismissed.

The Registrar:

The Chairman:

S. Fabiani

J. Riolo