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Datasheet for the decision of 14 February 2023

Case Number: T 1044/20 - 3.3.07

Application Number: 08738611.6

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Language of the proceedings: EN

Title of invention:
HAIR COSMETIC COMPOSITIONS

Patent Proprietor:
Kao Corporation

Opponent:
Henkel AG & Co. KGaA

Headword:
Hair cosmetic/KAO

Relevant legal provisions:
EPC Art. 54, 56
RPBA 2020 Art. 12(4)

Keyword:
Novelty - (yes)
Inventive step - (yes)
Amendment to case

Decisions cited:
T 0012/81, T 0666/89, T 0565/90, T 0017/85, T 0227/89

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Case Number: T 1044/20 - 3.3.07

D E C I S I O N
of Technical Board of Appeal 3.3.07
of 14 February 2023

Appellant: (Opponent)	Henkel AG & Co. KGaA Henkelstrasse 67 40589 Düsseldorf (DE)
Representative:	LKGLOBAL Lorenz & Kopf PartG mbB Patentanwälte Brienner Straße 11 80333 München (DE)
Respondent: (Patent Proprietor)	Kao Corporation 14-10, Nihonbashi Kayabacho 1-chome Chuo-ku Tokyo 103-8210 (JP)
Representative:	Hoffmann Eitle Patent- und Rechtsanwälte PartmbB Arabellastraße 30 81925 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 19 February 2020 rejecting the opposition filed against European patent No. 2135596 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	A. Usuelli
Members:	M. Steendijk
	Y. Podbielski

Summary of Facts and Submissions

I. European patent 2 135 596 ("the patent") was granted on the basis of five claims.

Independent claim 1 as granted defined:

" A leave-on type hair cosmetic composition comprising the following two layers A and B:

Layer A: an oil layer comprising the following component (a) in an amount of 0.5-40% by mass in the hair cosmetic composition, and component (d),
(a) a highly polymerized silicone selected from dimethicone and dimethiconol and having a number average degree of polymerization of 1,000-20,000,
(d) a volatile oil having a boiling point of 300°C or less, wherein the mass ratio between component (a) and component (d) is 1:10-1:1; and

Layer B: a water layer comprising the following components (b) and (c),
(b) a water-soluble polymeric thickening agent, and
(c) water."

II. The patent was opposed on the grounds that the claimed subject-matter lacked novelty and lacked an inventive step.

The opponent filed the appeal against the decision of the opposition division to reject the opposition.

In its decision the opposition division cited *inter alia* the following documents:

D1: JP-H11-222415 A
D2: Machine translation of D1
D3: JP S63-183517 A
D4: Machine translation of D3
D5: Dow Corning, Product sheet "Dow Corning 1401 ", 1997
D6: Dow Corning, Product sheet "Dow Corning 1401 ", 13 March 2000
D7: Dow Corning: Think Dow Corning Silicones for personal care - A unique marketing proposition"
D8: Dow Corning, Product sheet "Dow Corning 1501 ", 20 April 1998
D9: DE19703475 A1
D10: WO2005/063177 A1
D11: WO2007/052230 A1
D16: "Additional experimental data" submitted by the proprietor during the oral proceedings before the opposition division on 24 January 2020.

The opposition division arrived at the following conclusions:

(a) Document D9 did not disclose the claimed formulation comprising a highly polymerized dimethicone or dimethiconol having a degree of polymerization of 1000-20 000 as defined in the claims of the patent.

(b) Document D9 represented the closest prior art. The examples of document D9 described two-phase hair cosmetic compositions which differed from the claimed formulation in that they contained dimethicone with a viscosity of 100 mPas, which corresponded to a polymerisation degree of only 67 instead of 1000-20 000 as defined for component (a) in the claims of the patent.

The patent associated the degree of polymerization of the silicone and the relative amount of this component (a) with respect to the volatile oil component (d) with optimized mixing and separation of the layers A and B, easy spreadability as well as smoothness and tidiness of the treated hair. Document D16, which was admitted as a *prima facie* relevant response to a newly raised argument, confirmed these effects with results from experiments involving a composition as claimed and comparative formulations comprising dimethicone with a degree of polymerization as described in document D9. The problem to be solved was therefore the provision of a hair cosmetic composition which allowed to achieve these improvements.

The prior art did not suggest the claimed solution. Document D3 as translated in document D4 disclosed that the use of a high molecular weight dimethicone instead of a silicone oil with a polymerisation degree of 3 to 650 prevents the hair from becoming greasy, but did not suggest that the use of such high molecular weight dimethicone would solve the identified problem. Document D5 disclosed that dimethiconol improved the manageability of hair, but failed to provide any suggestion towards the improvement of a two-layer system as described in document D9.

Accordingly, the claimed subject-matter also involved an inventive step.

III. With the statement of grounds of appeal the appellant (opponent) contested the findings in the decision under appeal *inter alia* with the arguments that the claimed

subject-matter does not involve an inventive step in view of any of documents D1, D10 or D11 as starting point in the prior art and that it had not been demonstrated that improvements over the teaching of document D9 are achieved over the whole scope of the claims.

IV. In its communication pursuant to Article 15(1) RPBA the Board expressed the preliminary opinion that the subject-matter of claim 1 of the main request is new in view of document D9, that the appellant's arguments concerning a lack an inventive step in view of documents D1, D10 or D11 are not to be admitted and that in view of document D9 as closest prior art the subject-matter of claim 1 involves an inventive step.

V. Oral proceedings were held on 14 February 2023. During the oral proceedings the appellant declared not to pursue the arguments based on documents D1 or D10 as closest prior art.

VI. The arguments of the appellant relevant to the present decision are summarized as follows:

(a) Novelty

Document D9 described in its examples 1-4 haircare compositions comprising a hydrophile phase and a lipophile phase including a dimethicone with a viscosity of 20 or 100 mPas, which otherwise displayed all the features defined in claim 1 of the patent. According to the general teaching as expressed in claim 7 of document D9 the haircare compositions included preferably a non-volatile dimethicone with a viscosity of 10 to 100 000 mPas. In line with the considerations in the established

jurisprudence represented by T 12/81, T 666/89 and T 565/90 this general teaching regarding the suitability of dimethicone with a viscosity of 100 000 mPas, corresponding to a polymerisation degree of 1500, could be combined with the teaching in the examples. It would therefore merely require the single selection of the dimethicone with a polymerisation degree of 1500 as disclosed in claim 7 of document D9 to arrive at the claimed subject-matter. This implied in line with the considerations in T 17/85 that the claimed subject-matter was not new.

(b) Inventive step

Document D11 had been relied upon as a starting point in the prior art for denying an inventive step of the claimed subject-matter in the notice of opposition. This objection had not been withdrawn during the first instance proceedings. The objection based on document D11 as maintained in the statement of grounds of appeal did therefore not represent an amendment to the appellant's case. Moreover, the decision under appeal did not provide the reason why document D9 represented a more promising starting point than document D11. The objection based on document D11 was therefore to be admitted as a justified reaction to the findings in the decision under appeal even if it were considered an amendment to the appellant's case.

The composition of example 4 of document D9 only differed from the claimed composition in the lower polymerisation degree of the dimethicone in the lipophile phase. The results from comparative tests involving a composition comprising dimethicone with

a polymerisation degree of 2600 in document D16 could not substantiate any advantage for the defined compositions over the whole scope of the claims.

Document D3 already described the use of dimethicone with a polymerisation degree between 3000 and 20 000 in relevant amounts in haircare compositions, including two-layer systems, aimed at improving the smoothness of the hair and avoiding the greasiness that occurred with silicones having a polymerisation degree of 3 to 650. Moreover, documents D5 and D6 recommended the use of the product "DC 1401" in haircare products to enhance shine and manageability. As evidenced by documents D7 and D8 the product "DC 1401" contained dimethicone with a high polymerisation degree and was known to show equivalent properties to the product "DC 1501" described in the patent as containing a suitable high molecular weight silicone. In view of document D3 or in view of the information concerning the product "1401" the skilled person was motivated to include a high molecular weight dimethicone in the composition of document D9 thereby arriving in an obvious manner at the claimed compositions, especially as document D9 itself already described a polymerisation degree of 1500 for the dimethicone as the upper value of the preferred range.

The patent attributed the mixed phase properties of the composition to the ratio of the volatile and non-volatile components in the lipophile phase rather than the polymerisation degree of the dimethicone. The experimental results in the patent and document D16 would indeed not demonstrate any

relevant advantage for the dimethicone with the higher polymerisation degree. It was in view of the referral G 2/21 also questionable whether the results in the post-published document D16 could at all be relied upon. Any effect on the mixed state properties would anyway merely represent a discovery of a further property of a composition which was already obvious in view of the cited prior art.

VII. The arguments of the respondent (patent proprietor) relevant to the present decision are summarized as follows:

(a) Novelty

Document D9 did not directly and unambiguously disclose the replacement of the dimethicone with a viscosity of 100 mPas in the exemplified compositions of document D9 by dimethicone with a polymerisation degree of 1500. The selection of dimethicone with a polymerization degree of 1500 from claim 7 of document D9 still left the choice of the amount of dimethicone and the ratio thereof with respect to the volatile oil as well as the selection of a polymeric thickener from cationic and non-ionic polymers in order to arrive at a composition as defined in the claims of the patent.

(b) Inventive step

From the minutes of the oral proceedings held before the opposition division as well as the findings in the decision under appeal it was evident that the appellant had not further pursued the objections of lack of inventive step in view of

documents D1, D10 or D11 as alternative starting points in the prior art. The reliance on these objections in the statement of grounds of appeal therefore represented an unjustified amendment to the appellant's case, which was not to be admitted in the appeal proceedings.

The patent indicated that the high degree of polymerization of the non-volatile silicone allowed for the optimization of the mixed phase and handling properties of the composition as well as the smoothness and tidiness of the treated hair. Document D16 confirmed these effects with respect to a comparative example comprising a dimethicone with a viscosity of 100 mPas as included in example 4 of document D9. The provided evidence was not effectively challenged by the mere allegation that the effects might not be achieved over the whole scope of the claims. In view of document D9 the objective technical problem was therefore the provision of a haircare composition that allows an improvement with respect the mentioned combination of qualities.

Neither document D3 nor the documentation regarding the known properties of the product "DC 1401" addressed the problem of optimizing the mixed state properties or provided any suggestion towards the improvement of the composition of document D9 in terms of ease of handling or smoothness and tidiness of the hair after treatment.

The mentioned effects were crucial to the claimed invention and could in line with the considerations in T 227/89 not be dismissed as an accidental discovery.

VIII. The appellant requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

IX. The respondent requested that the appeal be dismissed.

The respondent further requested that the appellant's arguments concerning the requirement of inventive step on the basis of document D11 as closest prior art not be admitted and the newly raised argument that improvements are not achieved over the whole scope of the claims also not be admitted.

Reasons for the Decision

1. Novelty

1.1 Document D9 describes a two-phase hair cosmetic composition in which the hydrophile phase comprises a cationic or water-soluble non-ionic polymer and the lipophilic phase comprises a volatile silicone or hydrocarbon compound as well as a non-volatile silicone (see D9, page 2, lines 36-41, see also claim 1). The non-volatile silicones to be included have a viscosity between 10 and 100 000 mPas and are commercially available as dimethicone (see D9, page 4, lines 41-42, see also claim 7). The ratio between the volatile and non-volatile components of the lipophile phase is preferably between 90:10 and 50:50 and the ratio between the lipophile phase and the hydrophile phase is between 10:1 and 1:10 (see D9, page 4, lines 63-65, see also claims 8 and 15). Examples 1-4 present two-phase compositions in which the amount of non-volatile dimethicone ranges between 4% and 6% and the ratio of the non-volatile dimethicone to the volatile compound

ranges between 1:3.6 and 1:5. The dimethicone of examples 1 and 3 has a viscosity of 20 mPas and the dimethicone of examples 2 and 4 has a viscosity of 100 mPas (see D9, pages 5-6).

1.2 The finding in the decision under appeal (see page 3, section 10.1) that dimethicone with a viscosity of 100 mPas has a polymerisation degree of 67 and that accordingly the examples of document D9 are not covered by the claims of the patent was not in dispute.

The Board further observes that the respondent has not contested that dimethicone with a viscosity of 10-100 000 mPas as defined in claim 7 of document D9 corresponds to dimethicone with a polymerisation degree of 10-1500.

1.3 With respect to the generic disclosure in document D9 the Board notes that the ratio between the volatile component and the non-volatile dimethicone in the lipophile phase (between 90:10 and 50:50) and the ratio between the lipophile phase and the hydrophile phase (between 1:10 and 10:1) described in document D9 align well with the relative amount of the dimethicone (between 0.5% and 40%) and the ratio of its amount with respect to the amount of the volatile oil (between 1:10 and 1:1) defined in the claims of the patent. However, in order to arrive at the claimed subject-matter of the patent from the generic disclosure in document D9, a multiple selection is still required, namely the selection of the upper value for the range of the degree of polymerization derived from claim 7 of document D9 in combination with the choice of a thickening water soluble polymer from the cationic or non-ionic polymers described in document D9. The required multiple selection renders the claimed

composition new over the the general teaching of document D9 and distinguishes the present case from the circumstances in T 17/85, in which the definition of a numerical range was per se not considered to distinguish the claimed subject-matter from an overlapping range described in the prior art.

1.4 The examples in document D9 comprising dimethicone with a viscosity of 20 or 100 mPas (corresponding to polymerization degree of maximal 67) already fully implement the general teaching in document D9, including the teaching with respect to the presence of a dimethicone with a viscosity of 10 to 100 000 mPas as defined in claim 7 of document D9. As pointed out by the respondent during the oral proceedings a composition as claimed in the patent does therefore not simply result from the mere combination of the general teaching in claim 7 of document D9 with the examples in this document. Instead, a specific modification in the particular constitution of these examples is required in order to arrive at a composition as claimed in the patent, namely the inclusion of relevant amounts of dimethicone with the defined high polymerisation degree. Such a specific modification in the particular constitution of the examples disclosed in document D9 cannot be directly and unambiguously derived from the general teaching in document D9 concerning the range for possible values of the viscosity and the corresponding polymerisation degree of the dimethicone.

The Board thus considers that the disclosure in document D9 does not extend to specific modifications of isolated features of the examples on the basis of corresponding more generic embodiments of such features, in particular the range for the degree of

polymerization of the dimethicone as defined in claim 7 of document D9.

In line with the considerations in T 12/81, T 666/89 and T 565/90 the assessment of novelty is to be based on the total content of information in a cited document from the prior art, including the combination of the general information in the document with the teaching of an example representative of the general information in the same document. However, for the reasons explained above the Board concludes that the skilled person could not directly and unambiguously derive a composition as claimed in the patent from the total content of the information in document D9.

1.5 Accordingly, the Board agrees with the decision under appeal that the claimed subject-matter of the patent is new in view of document D9.

2. Inventive step

2.1 Closest prior art

2.1.1 According to the decision under appeal (see page 3, section 11.2) document D9 represented the single most promising starting point for arriving at the claimed invention, because it shared (see D9, page 2, lines 5-9) the underlying objective of the opposed patent to provide a composition that can be used to counter negative effects deriving from the chemical treatment of hair (see paragraph [0002]).

In the decision under appeal (see page 3, section 11.3) the opposition division noted: "*Both parties used D9 as the closest prior art*". Moreover, the minutes of the oral proceedings held before the opposition division on

24 January 2020 (see section 7) state: "*The parties agreed on considering D9 as closest prior art*". No request for correction of the minutes was filed and the Board concludes that the minutes accurately reflect the course of the oral proceedings.

2.1.2 In the statement of grounds of appeal (see pages 18-27, sections 4.8-4.19) the appellant formulated objections based on documents D1, D10 and D11 as alternative starting points in the prior art in addition to the objection based on document D9 as closest prior art. In the course of the appeal proceedings the appellant only maintained the additional objection based on document D11. Whilst this objection had been raised in the notice of opposition (see section 4.10), the Board concludes from the minutes of the oral proceedings and the decision as cited above that this objection had not been further pursued by the appellant during the first instance proceedings. The appellant's renewed reliance on this objection in the appeal proceedings thus represented an amendment to its case under Article 12(4) RPBA 2020.

The statement of grounds of appeal merely indicates that document D11 presents an example of a formulation comprising 0,24% of a highly polymerized dimethiconol instead of the claimed minimum of 0,5% (see statement of grounds of appeal, page 25, last paragraph). From the statement of grounds of appeal it is therefore not evident why document D11 would represent an at least equally suitable starting point as document D9 and thus why the opposition division erred in the identification of document D9 as the most promising starting point. The statement of grounds of appeal does thereby not justify the admittance of the amendment.

In view of the provisions in Articles 12(4) and 12(6) RPBA and taking account of the primary object of the appeal proceedings as formulated in Article 12(2) RPBA the Board has therefore decided not to admit the appellant's objection based on document D11 as closest prior art.

2.1.3 Accordingly, the appeal is limited with respect to the question of inventive step to the appellant's objection based on document D9 as closest prior art.

2.2 Problem to be solved

2.2.1 As explained in section 1 above, the difference between the claimed subject-matter and the exemplified compositions in document D9 concerns the presence of a high molecular silicone selected from dimethicone or dimethiconol with a polymerization degree of 1000 to 20 000 instead of dimethicone with a viscosity of 100 mPas corresponding to a polymerization degree of only 67.

2.2.2 As pointed out in the decision under appeal (see page 4, sections 11.6-11.7) the patent states (see paragraphs [0016] and [0023]) that the degree of polymerization of the non-volatile silicone and the ratio of this agent with respect to the non-volatile oil are associated with the optimization between mixing and separation of the layers A and B, easy spreadability as well as smoothness and tidiness of the treated hair. The experimental results in the patent, in particular example 1 and comparative example 1 (see evaluation in Tables 1 and 2), indicate that the presence of a non-volatile silicone with the high degree of polymerization in a composition as defined in the claims allows - in a comparison with a composition

comprising instead a dimethicone of a viscosity of 10 mPas - for improved ease of application and improved tidiness and smoothness of the hair and permits the persistence of the mixing state after 5 minutes. Document D16 confirms these effects with respect to a comparative example comprising a dimethicone with a viscosity of 100 mPas as included in example 4 of document D9.

2.2.3 The appellant objected (see statement of grounds of appeal, pages 12-13, section 4.5) that the experimental data on file concerning compositions as claimed involve a formulation comprising dimethicone with a polymerization degree of 2600, which would not support any advantage for the formulations with dimethicone having a polymerization degree of 1000 or 20 000 as also comprised by the definition of the claims.

The appellant has, however, not provided actual evidence that casts doubt on the statements in paragraphs [0016] and [0023] of the patent and the supporting experimental evidence in the examples of the patent and document D16. The Board finds therefore no reason to doubt that the effects shown for the tested formulation comprising dimethicone with a polymerization degree of 2600 with respect to compositions comprising dimethicone with a viscosity of 10 or 100 mPas are generally achieved with the high molecular weight silicones over the whole range of the polymerisation degree defined in the claims.

In view of the Board's finding that this objection lacks merit, the reason for the admittance of the objection is of no further relevance to the decision.

2.2.4 The appellant argued that the patent does not mention the mixed phase properties amongst the effects of the high polymerisation degree in paragraph [0016] and that in paragraph [0023] the patent actually attributes the mixed phase properties of the composition to the ratio of the amount of the non-volatile silicone to the non-volatile oil rather than the polymerisation degree of the silicone. The appellant further contested that the experimental results in the patent and document D16 substantiated any technically relevant advantage regarding the mixed phase properties in view of the common experience that the application of a haircare composition takes less than a minute as well as in view of the less than optimal results concerning the persistence of the mixed phase and the ease of handling reported in the patent for examples 4, 5 and 6. The appellant also questioned whether having regard to the pending referral G 2/21 the results in the post-published document D16 concerning the mixed phase properties should actually be taken into account.

The Board observes, however, that the patent attributes in paragraph [0023] the mixed phase properties together with the ease of spreadability of the composition and the smoothness and tidiness of the treated hair to the defined mass ratio between component (a) and component (d). The patent refers thereby not merely to a ratio of the volatile oil (d) with respect to any non-volatile silicone, but specifically the ratio with respect to component (a), which is the silicone having a polymerisation degree of 1000 to 20 000. The effect of the polymerisation degree on the mixed phase properties is indeed demonstrated in the experimental results in the patent and document D16, which both indicate that the composition comprising dimethicone with the high polymerisation degree of 2600 allows for the mixed

state to persist 5 minutes after mixing and for separation of the phases within 60 minutes. In contrast, the compositions which only differ in that they comprise instead dimethicone having a viscosity of 10 or 100 mPas already show significant separation of the phases within 5 minutes after mixing.

The Board is further not convinced that the objective effect of a persisting mixed state during the first 5 minutes can be disregarded as technically irrelevant on the basis of some alleged common experience regarding the time required for applying hair cosmetics as argued by the appellant. As regards the less optimal results concerning the persistence of the mixed phase and the ease of handling reported in the patent for examples 4, 5 and 6 the Board observes that these examples still show a favourable persistence of the the mixed state. Moreover, in contrast to example 1 of the patent the examples 4, 5 and 6 differ not only in the polymerisation degree of the dimethicone from the comparative examples used in the experiments reported in the patent and document D16.

As the proof of the effect concerning the mixed phase properties of the claimed composition does not exclusively rely on post-published evidence the Board does further not regard the pending referral G 2/21 as pertinent to the considerations in the present case.

Accordingly, the Board is satisfied that the presence of the high molecular weight silicone in the claimed composition is indeed associated with the optimized mixed phase properties of the composition.

2.2.5 In view of the above discussed effects associated with the distinguishing feature concerning the presence of

the silicone with a polymerisation degree of 1000 to 20 000 the Board agrees with the finding in the decision under appeal (see page 6, section 11.8) that the objective technical problem underlying the claimed invention may be formulated as the provision of a hair cosmetic composition which allows the optimization of a plurality of properties, in particular the mixed phase properties and the ease of application of the composition and the tidiness and smoothness of the hair after treatment.

2.3 Assessment of the solution

2.3.1 Document D9 teaches in the general part of the disclosure that the described compositions may comprise a dimethicone with a viscosity up to 100 000 mPas, corresponding to a polymerisation degree of 1500. However, the document does not provide any suggestion that the use of dimethicone with a polymerization degree at the high end of the described range allows for any particular advantage, let alone the particular advantage of the optimization of the mixed state properties and ease of application of the composition together with the improved tidiness and smoothness of the hair after treatment.

2.3.2 The parties relied during the appeal proceedings on document D4 as the translation (machine-generated) of document D3. Document D4 describes that in conventional hair cosmetic compositions oils such as silicone oils with a polymerisation degree of 3 to 650 impart gloss and smoothness to the hair, but cause greasiness when frequently used or included in large quantities. In contrast, polymers such as polyvinylpyrrolidone generally used for the purpose of setting hair are not satisfactory in terms of gloss and smoothness of the

hair (see D4, page 2 of the PDF-document, under Background of the invention). Document D4 teaches that by including high molecular weight silicones having a polymerisation degree of 3000 to 20 000 it is possible to provide a hair cosmetic composition that imparts excellent gloss and smooth feel together with "force", whilst avoiding the greasiness that may occur with the conventional use of dimethicone having a degree of polymerisation of 3-650 (see D4, abstract and pages 2-3, under "Problems to be solved by the invention" and "Means for solving the problem"). Document D4 further describes that this high molecular weight silicone preferably makes up 1-30% of the total amount of the cosmetic, is preferably blended with volatile oil, possibly a low boiling silicone oil, in a weight ratio in the range of 1:50 to 1:1, and may for instance be formulated as a two-layer oil-water system (see D4, page 3, lines 13-14, 16-17, 30-32 and 33-35). Document D4 presents examples (see pages 5-6) relating to hair oils (examples 1 and 4) as well as emulsions (examples 2 and 3).

The appellant further relied (see statement of grounds of appeal, pages 16-17, section 4.7') on the information in documents D5, D6, D7 and D8 that the known product "DC-14101"

- improves the shine and manageability of hair (see D5, pages 1-2, bridging section)

- improves the condition of hair and reduces stickiness of fatty formulations (see D6, page 1, under "Vorteile")

- comprises dimethiconol in cyclomethicone (see D7, page 8, Chart III; see also page 6, left column,

under "Cyclomethicone (and) dimethiconol") and is *inter alia* recommended as ingredient for curl activators, moisturizers and hair dressings (see D7, page 4)

- has equivalent properties to the product "DC-1501" (see D8, page 1, under "Description"), which is mentioned in the patent (see page 3, line 58) to comprise a suitable high molecular weight silicone.

The appellant argued that the skilled person, who intends to improve the formulations of document D9 in terms of the smoothness of the treated hair or its "Frisierbarkeit" (tidiness/manageability/holding-power/setting-hair) and shine, would choose to include a dimethicone or dimethiconol with a degree of polymerisation in the range of 1000-20 000, because document D9 already disclosed values up to 1500 as preferred and because document D3/D4 and the documentation concerning the product "DC-1401" already recommended that dimethicone with a polymerization degree of 3000-20 000 or the dimethiconol in the product "DC-1401" are particularly well suited to achieve the intended improvement.

However, the relevant information in document D3/D4 and documents D5/D6/D7/D8 as summerized above does not at all concern the mixed phase properties and the ease of application of the haircare composition nor the improved tidiness of the treated hair. Moreover, whilst document D3/D4 mentions the purpose of providing hair with a smooth feel, document D3/D4 does not indicate that by the use of the high molecular weight silicones in haircare compositions any improvement in smoothness of the treated hair is achieved over the use of the

silicones with a lower polymerisation degree. In this context the Board observes that the appellant's suggestion as expressed during the oral proceedings that the avoidance of greasiness reported in document D3/D4 correlates with improved smoothness, is not supported by the information in document D3/D4, which specifically distinguishes between the smoothness of hair, which is promoted by silicones with a polymerisation degree of 3-650, and the greasiness of hair, which is avoided by the use of the high molecular weight silicones.

Accordingly, the Board considers that neither document D3/D4 nor the known properties of the product "DC 1401" provide the skilled person with any relevant suggestion towards the claimed subject-matter as a solution to the problem of optimizing the mixed state properties and the ease of handling of the compositions and the tidiness and smoothness of the hair after treatment.

2.3.3 The Board is further not convinced by the argument that the effects deriving from the high molecular weight silicone in the claimed composition discussed in section 2.2.2 above merely concern discovered further properties of a compositions which was anyway obvious in view of the upper value for the range of the polymerisation degree of 1500 for the dimethicone described in document D9 in combination with the effects of the high molecular weight silicones described in document D3/D4, notably the avoidance of greasiness of the hair, or the known properties of the product "DC-1401".

In line with the considerations in T 227/89 (see section 5.2 and the headnote) such argument is considered based on hindsight rather than on the

required assessment of the claimed subject-matter as the solution to the objective technical problem in the light of the available prior art.

2.3.4 The Board therefore concludes in line with the findings in the decision under appeal that the claimed subject-matter of the patent involves an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

B. Atienza Vivancos A. Usuelli

Decision electronically authenticated