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Datasheet for the decision of 21 September 2006

Case Number: T 0119/02 - 3.3.07

Application Number: 93914454.9

Publication Number: 0605686

IPC: A61K 7/06

Language of the proceedings: EN

Title of invention:
Emulsion polymers for use in hair fixatives

Patentee:
National Starch and Chemical Investment Holding Corporation

Opponent:
Union Carbide Corporation

Headword:
-

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no) - problem and solution"

Decisions cited:
-

Catchword:
-

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Case Number: T 0119/02 **-** 3.3.07

D E C I S I O N
of the Technical Board of Appeal 3.3.07
of 21 September 2006

Appellant: (Patent Proprietor)
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Decision under appeal:
Decision of the Opposition Division of the European Patent Office posted 28 November 2001 revoking European patent No. 0605686 pursuant to Article 102(1) EPC.

Composition of the Board:

Chairman: S. Perryman
Members: B. Struif
F. Rousseau

Summary of Facts and Submissions

I. The mention of the grant of European patent No. 605 686 on European patent application No. 93 914 454.9 originating from international patent application PCT/US93/05523 having an international filing date of 10 June 1993 and claiming priority date of 16 July 1992 in the USA (US 915488) was published on 11 November 1998. The patent was granted with ten claims, claims 1 and 10 reading as follows.

"1. An aqueous emulsified hair fixative composition comprising by weight:

(A) 2%-15% of a polymer dispersed in an aqueous emulsion without the need of any organic solvent, said polymer comprising polymerized residues of

(a) one or more ethylenically unsaturated acidic monomers selected from the group consisting of C_3-C_{12} mono- and di-carboxylic acids and the C_1-C_8 alkyl half esters of maleic and fumaric acids, and combinations thereof, present in an amount of 5%-35% by weight of the polymer; and

(b) one or more water insoluble comonomers selected from the group consisting of C_3-C_{12} acrylates and methacrylates, C_1-C_8 alkyl substituted acrylamides and methacrylamides, vinyl acetate, vinylesters of C_3-C_{12} carboxylic acids, styrene, and combinations thereof, present in an amount of 65%-95% by weight of the polymer; and

(B) an effective amount of a cosmetically acceptable organic or inorganic base, or combination of those

bases, to neutralize the available carboxyl groups to the equivalent on a molar basis of about 25-100% to obtain shampoo removability of the hair fixative composition without destabilizing the emulsion or dissolving the polymer."

"10. A process for the preparation of an aqueous emulsified hair fixative composition, according to any of claims 1 to 9, comprising the steps of

(A) preparing an aqueous emulsion polymer having a solids content of 2%-15% by weight and comprising polymerized residues of

(a) one or more ethylenically unsaturated acidic monomers, selected from the group consisting of C_3-C_{12} mono- and di-carboxylic acids and the C_1-C_8 alkyl half esters of maleic and fumaric acids, and combinations thereof, present in an amount of 5%-35% by weight of the polymer; and

(b) one or more water insoluble comonomers selected from the group consisting of C_3-C_{12} acrylates and methacrylates, C_1-C_8 alkyl substituted acrylamides and methacrylamides, vinylesters of C_3-C_{12} carboxylic acids, styrene, and combinations thereof present in an amount of 65%-95% by weight of the polymer; and

(c) optionally, one or more nonionic water soluble comonomers selected from one or more of the group consisting of water soluble hydroxyalkyl esters of acrylic and methacrylic acids, C_1-C_4 alkyl C_2-C_4 aminoalkyl esters of acrylic and methacrylic acids, acrylamide and methacrylamide, dimethyl acrylamide and methacrylamide, N-vinyl pyrrolidone, vinyl caprolactam

present in an amount up to 20% by weight of the polymer; and

(d) optionally, a surfactant present in an amount up to 4% by weight; and

(B) adding an effective amount of a cosmetically acceptable organic or inorganic base, or combination of those bases, to neutralize a sufficient proportion of the available carboxyl groups to obtain shampoo removability of the hair fixative composition without destabilizing the emulsion or dissolving the polymer."

II. A notice of opposition was filed against the granted patent, in which revocation of the patent in its entirety was requested on the grounds of Article 100(a) EPC with respect to lack of novelty and lack of an inventive step, respectively. The opposition was supported *inter alia* by the following documents:

D1: G. Proserpio: Nuovi Polimeri Acrilici e Loro Impieghi Cosmestici, Rivista Italiana Essence, Profumi, Piante Officinali, Aromi, Saponi, Cosmetici, Aerosol, 1975, 57(11) p 643-654
D1a: English translation of D1; if not otherwise indicated, reference is made to the English translation

After expiry of the opposition term the following further document was cited:

D6: EP-A-274 086

III. In a decision posted on 28 November 2001, the opposition division revoked the patent. That decision was based on the patent as granted.

IV. The opposition division held that:

(a) As regards novelty, the claimed subject-matter was directed to a dispersion of not dissolved polymer particles in a liquid system. D1a disclosed a composition of Eudispert which was characterized as being an emulsion comprising lipophilic substances and a polymer in solution. However, there was no clear and unambiguous disclosure of a dispersion in which the polymer was not dissolved as claimed.

D6 disclosed an aqueous/alcoholic hair fixing composition based on carboxylic polymers which was partially neutralised with alkanol amines to provide a composition which is not clearly dissolved in water. That teaching was interpreted as partially dissolved in contrast to the definition of claim 1 "not dissolved".

Hence, the claimed subject-matter was novel (Article 54 EPC).

(b) As regards inventive step, D6 was considered to represent the closest state of the art. The claimed composition differed from D6 in that the neutralized polymer was not dissolved in the dispersion. No technical effects had been shown by said difference. Thus, the technical problem was the provision of an alternative composition. The solution of such a problem was obvious, since the skilled person would seriously contemplate all compositions including those where the dispersed

polymer was not dissolved. Hence, the claimed subject-matter was made obvious.

V. On 28 January 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 20 March 2002.

VI. By letter dated 23 February 2004, the opponent (respondent) withdrew the opposition.

VII. By letter of 17 March 2004, the appellant filed a set of claims 1 to 9 as auxiliary request and submitted a statutory declaration dated 15 March 2004.

VIII. In a communication the board addressed the points to be discussed during the oral proceedings.

IX. By letter dated 31 July 2006, the board was informed that the appellant would not be attending oral proceedings.

X. Oral proceedings were held on 21 September 2006 in the absence of the appellant as announced (Rule 71(2) EPC).

XI. The appellant had argued in writing as follows:

(a) According to claim 1 as granted, the polymer was dispersed in an aqueous solution without the need for any organic solvent and the emulsion was a stable emulsion of the polymer. However, the dispersion of D1a was not necessarily present as an emulsion, since below pH 4 the solubilized

resin precipitated for total insolubility. Furthermore, the intended use of the acrylic polymer as an emulsion in D1a meant that the polymer might only be used in a water/oil emulsion.

(b) In D6, a full neutralization was needed to get a clear solution. As far as intermediates were concerned which were obtained by neutralisation of commercial resins with amino alkanols, no stable dispersions could be formed as shown by the test report according to the statutory declaration submitted with letter dated 17 March 2004. According to the patent in suit, it was important that a stable emulsion could also be formed throughout the neutralization range, and that the hair fixative composition comprises this emulsion and had shampoo removability. Thus, there were clear differences over D1a and D6.

(c) As regards inventive step, D1a disclosed a solution of Eudispert polymer which was neutralized to impart the desired water-solubility. As far as the term "emulsion" was used in D1a, it did not refer to a polymer as claimed but to the lipophilic substances present in the composition. Resin 11-39 was given without any precise structural composition and was not disclosed as emulsion. The graph on page 24 of D1a showed that the solubility of Resin 11-39 in water-alcohol solutions depended on the degree of neutralisation with AMP. No emulsions were disclosed. Hence, D1 did not give any incentive to emulsify the copolymers Eudispert and resin 11-39.

(d) According to D6 it was known, that a carboxyl group-containing polymer partially neutralized with an alkanol amine did not provide a clear solution in water. Fully neutralized polymers, although providing clear solutions, did not provide good properties when applied to the hair. Therefore, D6 aimed at compositions containing a clear solution of dissolved polymer that also provided good hair fixing properties. This was achieved by using a dual neutralization with alkanol amines and ammonia.

(e) The problem of the present invention was to produce an aqueous hair fixative which permitted high solids at low viscosity. The solution of that problem was to form a stable emulsion. The partially neutralized intermediate product formed in D6 provided no stable emulsion and there was no incentive in D6 how to achieve a stable emulsion. According to the patent in suit a stable emulsion was prepared by emulsion polymerization or post-emulsification of solvent-formed polymers and then neutralizing the emulsion to a desired content without breaking the emulsion. Such stabilized emulsions permitted the achievement of high solids at low viscosity useful for an effective atomization by a spray nozzle and for the direct control of the hair fixative product on the hair. Thus, the claimed subject-matter was not made obvious when starting from D6.

The further cited prior art documents were unrelated to a water-based emulsion as claimed.

Hence, the claimed subject-matter involved an inventive step.

XII. Before the withdrawal of the opposition, the former opponent had argued in writing as follows:

(a) As regards novelty, some features of the claims needed interpretation, in particular the following terms or expressions: "emulsion/emulsified", "dispersion/dispersed", "without the need of any organic solvent" and "without dissolving the polymer". According to the appellant the terms "dispersion" and "emulsion" were interchangeably used so that this interpretation also applied to D1a.

(b) D1a disclosed aqueous dispersions of "Eudispert" polymer in a concentration and a degree of neutralisation as defined in claim 1. Thus, the claimed subject-matter was anticipated by D1a.

(c) D6 disclosed "Resyn 28-2930" and the polymer "Amphomer", which were also used in examples 1 and 2 of the patent in suit. The carboxyl groups of the polymers were neutralized with an alkanol amine to an equivalent of 50 to 90% by mole so that it did not result in "clear solubility" in water. Furthermore, the polymers were easily washable from hair and still provided high flexibility and curl retention of the hair. Since according to the patent in suit, the fixative composition might contain organic solvents and the desired degree of water solubility had to be balanced against the stabilization of the emulsion,

the term "not dissolved" in claim 1 had to be interpreted as "not completely dissolved" and covered partial dissolution. Thus, the claimed subject-matter was not novel over D6 as well.

(d) As regards inventive step, D6 disclosed emulsions/dispersions which included the same polymers, the same solids content in water and the same neutralization degree. It had not been shown that the feature "not dissolved" compared to "not yet completely soluble" provided any technical effect. Furthermore, D1a disclosed the commercial use of dispersions having the claimed degree of neutralisation which contained undissolved polymer particles in a liquid medium without any reference to instability. Thus, the skilled person would consider D1a to modify the teaching of D6 in a direction of the claimed subject-matter. Hence, the claimed subject-matter did not involve an inventive step.

XIII. The appellant had requested in writing that the decision under appeal be set aside and that patent be maintained as granted (main request) or in accordance with claims 1 to 9 of the auxiliary request filed on 17 March 2004.

Reasons for the Decision

1. The appeal is admissible

Procedural questions

2. Since the opponent was the respondent, withdrawal of the opposition does not affect the appeal proceedings. However, the respondent ceases to be party of the appeal proceedings in respect of substantive issues (Case Law of the Boards of Appeal of the European Patent Office, 4th Edition 2001, VII.D.11.2).

In such case, the board of appeal has to examine the substance of the opposition division's decision on its own motion; it can only set the decision aside and maintain the patent if the latter meets the requirements of the EPC (Case Law, *supra*, VII.C.6.2).

Interpretation of the claims

3. According to established Case Law, it may be necessary and is legitimate to refer to the description and drawings when attributing a meaning to the terms used in the claims in order to make an objective assessment of the content of a claim when judging whether its subject-matter is novel and not obvious (Case Law, supra, II.B.4.3). Before discussing the substantive issues, the following features of claim 1 of the main request appear to the Board to need interpretation:

- "2% to 15% of a polymer dispersed in an aqueous emulsion without the need of any organic solvent", and

– "without destabilizing the emulsion or dissolving the polymer".

3.1 The first term relates to a percentage of a dispersed polymer in an aqueous emulsion. According to the description, the hair fixative formulations of the invention are prepared by diluting polymer emulsions with water to 2 to 15% solid content by weight, preferably 5 to 10% by weight (page 3, lines 22 and 23). According to claim 10 an aqueous emulsion polymer having solids content of 2 to 15% by weight is prepared. Thus, the percentage according to claim 1 refers to solid polymer particles which interpretation is in line with the term "dispersed" in the patent in suit.

3.2 As regards the term "in an aqueous emulsion", the starting polymer emulsions or emulsion polymers used for the preparation of hair fixative formulations as claimed can be prepared directly via emulsion polymerization or post-emulsification of solvent borne solutions (page 3, lines 17 and 18).

3.2.1 According to examples 1 to 9 emulsification procedures are described to illustrate the preparation of "emulsions". In examples 1 and 2, the hair fixative polymer can be prepared from commercial products such as Resyn® 28-2930 and Amphomer® LV-71 by subjecting them to a post-emulsification in the presence of organic solvents and a neutralisation agent (tables, page 4 of the patent in suit). In example 3 a solution polymerized product is post-emulsified in the presence of organic solvents and a neutralisation agent (table on page 6). In examples 4 and 5 the emulsion polymers

are prepared by emulsion polymerisation. In example 6 a solution polymerized product is post-emulsified in the absence of organic solvents by using a neutralisation agent (amino-2-methyl-1-propanol). Thus, in example 6, the emulsified polymer can be prepared without organic solvent simply by adding an organic base. All exemplified emulsion polymers are solids having specified particle sizes (see footnote 4 under the tables).

3.2.2 From the above it follows that the term "aqueous emulsion" mentioned in claim 1 refers to dispersed solid particles in water which can be prepared by emulsion polymerization or post emulsification. Consequently, the term "emulsion" in the patent in suit comprises finely dispersed discrete solid polymer particles in water and hence has not the meaning of a liquid oil-phase dispersed in an continuous liquid phase for which the term "emulsion" normally is used.

3.3 As regards the term "without the need of an organic solvent" the description provides the following elucidation:

3.3.1 According to the patent in suit, the polymer can be dispersed in an aqueous emulsion and be effective in hair fixative compositions without the need for an alcohol as a solvent (see also page 2, lines 50 to 52). Although the hair fixative formulations of this invention are designed to be aqueous systems without the need for any organic solvent, an organic solvent may be admixed with the formulation if a quicker drying formulation is desired (page 3, lines 38 and 39).

Suitable solvents are alcohols and ketones (page 3, lines 42 and 43).

3.3.2 In deed, according to the examples, illustrating the formulation of hair fixative composition, no organic solvent is used during the neutralization step of the dispersions (emulsions) (page 12, lines 48 and 49). This does not, however, mean that the use of the wording ("without the need for any organic solvent") in the claims and the teaching in the description to add an organic solvent afterwards are contradictory, since the term used in claim 1 only relates to an intermediate product, which is obtained by a neutralization process without any organic solvent. Consequently, the claimed composition does not exclude that after neutralisation an organic solvent may be added (see the term comprises in claim 1). Hence, the feature "without any solvent" has only a restrictive meaning in the sense of said neutralisation step for the preparation of an intermediate product but not for the hair fixative composition as a whole.

3.3.3 Consequently, the term "2 to 15% of a polymer dispersed in the aqueous emulsion without the need of organic solvent" according to claim 1 has to be interpreted in the light of the description as a dispersion of 2 to 15% by weight of specific discrete solid polymer particles in water which dispersion is first prepared by neutralization of carboxylic polymers in the absence of an organic solvent.

3.4 As regards the last feature "without destabilizing the emulsion or dissolving the polymer", the following should be considered:

3.4.1 If the polymer is neutralized to too great an extent, it may dissolve and destabilize the emulsion. Therefore, the degree of water solubility desired must be balanced against stabilization of the emulsion. This balance is achieved for the hair fixative polymers of the patent in suit by neutralizing the available carboxyl groups present on the polymer to the equivalent on a molar basis of about 25%-100% (see page 3, lines 29 to 32). Hence, there is an interaction between water solubility of the polymer and the stability of the emulsion so that during the neutralization the dispersion (emulsion) remains intact.

3.4.2 Consequently, that last feature relates only to the neutralization step (B) of claim 1 and defines an intermediate product obtainable by said process step (compare also point 2.4.2 above). The stability may, however, be affected after the neutralisation step in the final hair fixative composition as well.

Main request

Novelty

4. The question whether or not the claimed subject-matter is novel over the cited prior art can be left open, since the board has come to the conclusion that the subject-matter of claim 1 is not inventive as can be seen from points 5 to 7. below.

Inventive step

Closest state of the art

5. The patent in suit concerns emulsion polymers for use in hair fixatives. Such compositions are known from the prior art, in particular D6, which the appellant regarded as the closest prior art document and which was the starting point for the opposition division. The board sees no reason to take a different view as can be gathered from the following.

5.1 D6 discloses a hair fixative composition in form of aqueous or aqueous/alcoholic formulations comprising a dissolved carboxylic groups containing polymer, wherein 50 to 90% by mol of the carboxyl groups are neutralized with alkanol amines having 2 to 10 carbon atoms and 10 to 50% by mol of the carboxylic groups are neutralized with ammonia (claim 1). Suitable carboxylic group containing polymers are terpolymers of vinyl acetate, crotonic acid and a vinylester of a branched carboxylic acid such as Resyn® 28-2930 (column 2, lines 49 to 55) or a copolymer of N-octyl acrylamide, methyl methacrylate, hydroxypropyl methacrylate, acrylic acid and tert-butylaminoethyl methacrylate which is available under the tradename Amphomer® (column 3, lines 3 to 8). Resyn® 28-2930 and Amphomer® are available from National Starch Chemical Company and are also used in examples 1 and 2 of the patent in suit as starting materials for a post emulsification process. The products of D6 may be used in an amount of 1 to 5 % by weight (Claim 4).

5.2 In the examples of D6, hair fixative compositions are disclosed which contain either Resyn® 28-1310 or Luviset® CA66 both being copolymers of vinyl acetate and crotonic acid (90:10) (column 6, lines 34 to 39)

and are used in an amount of 3.8% by weight (column 5, line 45 and column 6, line 14). Consequently, the polymers used in the exemplified compositions of D6 and their amount fall within the definition of claim 1.

5.3 The carboxylic groups containing resins whose carboxylic groups are neutralized to an equivalent of 50 to 90% by mol with alkanolamines have the best application properties and can be rinsed out from the hair. However, an aqueous alcohol solution having a high amount of alcohol is needed to provide clearly dissolved products (column 1 lines 25 to 28). Furthermore, completely neutralized resins dissolve well in water and water-alcohol solution with low alcohol content, however they show no good application properties (column 1, lines 19 to 32).

5.4 The aim of D6 is to provide a clear solution in water or in diluted alcohol with low alcohol content, which shows good film elasticity and curl retention. That aim can be achieved if the carboxyl containing product is neutralized with alcanol amines to a degree of neutralization which provides optimum hair properties, and then with ammonia (column 1, lines 36 to 48). During drying of the film on the hair, a part of ammonia evaporates and leaves a resin in the partially neutralized form, in which they have optimum application properties (column 3, lines 30 to 34).

5.5 According to the patent in suit, there is still a need for water based systems of hair fixative polymers that are alternatives to alcohol based systems and that exhibit all the characteristics of good hair fixatives, namely, holding power, humidity resistance, stiffness,

clarity, aesthetics, and easy removability (page 2, lines 28 to 30).

5.6 From the above it follows that the aqueous hair fixative compositions of D6 are based on carboxylic containing resins identical to those of the patent in suit and are neutralized with organic and inorganic bases to a neutralization degree within the claimed range and provide good film elasticity and curl retention values to the hair (see column 1, lines 36 to 42), from which the carboxyl group containing resins can be washed out well (see column 2, lines 22 and 23). Consequently, D6 is closely related to hair fixative compositions and its effects aimed at in the patent in suit so that D6 can be considered as an appropriate starting point for evaluating inventive step in line with the established case law (Case Law, *supra*, I.D.3.1).

Problem and solution

6. According to the patent in suit, the aerosol formulations have been tested with respect to the following properties: stiffness; resistance to combing; flake accumulation on hair; gloss; static flyaway after combing; tackiness; drying time; removal after shampooing. The results of the panel evaluations are set out in Tables 2 and 4 and show that the aqueous aerosol formulations perform for most properties comparably to the ethanol based systems and are effective alternatives to ethanol based systems. Thus, no improvements have been shown in the patent in suit over comparable alcoholic system from which the patent in suit starts. These experimental results are in line

with the problem formulated in the patent in suit (page 2, lines 28 to 30).

6.1 Furthermore, there are no comparative examples on file showing any improvements over aqueous or aqueous/alcoholic hair fixative compositions as disclosed in D6.

6.2 The proprietor has however also argued that the patent in suit aimed at a high stability of the emulsion.

6.2.1 According to the patent in suit, US-A-3 810 977 and US-A-3 927 199 disclose carboxylated resins, prepared by bulk, suspension or solution polymerization techniques that are suitable for use in hair cosmetics. The use of these polymers in a stabilized emulsion permits the achievement of high solids at low viscosity. A high solids content supplies an effective amount of polymer to the hair in a minimum amount of water to obtain good holding power. Low viscosity permits effective atomization of the emulsion at the spray nozzle. Thus, a hair fixative product suitable for use in either aerosol or nonaerosol formulations is achieved by controlling the solids content, viscosity and particle size of the emulsion (page 2, lines 48, 49 and 53 to 57).

6.2.2 Furthermore, the stability of the hair fixative compositions has been tested in the patent in suit. According to those tests, the example 2 emulsion is 25% neutralized with NaOH and 60% neutralized with histidine and the pH value is measured weekly over a period of 19 weeks (see page 14 line 29 to page 15, line 30). The results in table 4 on page 15 show that

the overall pH of the samples remain relatively constant indicating that the example 2 emulsion is stable over time.

6.2.3 However, these tests only illustrate that the hair fixative composition may be present in another physical form, namely in the form of a dispersion or emulsion (in which the polymer is not dissolved) rather than in the form of a clear solution as in D6 without providing any further suitable hair fixative properties. In particular, the claimed subject-matter does not indicate any technical features, which may conceivably contribute to a control in high solid content, low viscosity and particles size for providing a high stability of the emulsion.

6.3 In addition, the claims are not restricted to hair fixative compositions in the form of pure aqueous emulsions, since they may contain organic solvent as explained under point 3.3 above, which can be added to the hair fixative formulation after neutralization. There is no evidence on file that when using a neutralization step "without any solvent" any specific substantive properties to the hair fixative composition as claimed are provided. Furthermore, as apparent from D6, organic solvents such as alcohols can readily dissolve neutralized polymers (column 1, lines 28 to 31) so that the problem of "emulsion stability" cannot be solved over the whole breadth of the claims.

6.4 From the above it follows that the claimed subject-matter does not define any specific features different from D6 which may contribute for solving the emulsion stability problem. Consequently, the emulsion stability

cannot be considered when formulating the problem to be solved.

6.5 Hence, the technical problem solved by the claimed subject-matter may therefore only be seen in providing an alternative aqueous hair fixative composition, which provides application properties similar to those of D6, in line with the patent in suit, page 2, lines 28 to 30.

Obviousness

7. It remains to be decided whether the claimed subject-matter is obvious having regard to the documents on file.

7.1 According to D6, a not completely clear solution of carboxylic group containing polymer in aqueous and aqueous/alcoholic formulations may be formed by neutralizing such polymers with alcanol amines to a equivalent of 50 to 90 % by mole (column 3, lines 18 to 48). Consequently, parts of the polymer product remain undissolved or dispersed so that D6 covers composition in the form of a dispersion of carboxylic containing polymer particles in water. Furthermore, such not completely clear solutions can already be washed out from the hair and show optimum hair fixative properties (column 1, lines 18 to 25). That disclosure is considered enabling, since neutralisation with alcanol amines alone already provides optimum application properties to the hair, such as high elasticity (column 1, lines 42 to 45, column 3, lines 18 to 24). Thus, dispersions indicated in D6 already provide properties similar to those envisaged by the patent in suit (page 2, lines 28 to 30). Thus, the

claimed subject-matter for providing an alternative hair fixative composition is made obvious from D6.

7.2 The fact that Resyn® 28-2930 mentioned in D6 cannot be dissolved (completely) by amino methyl propanol alone is confirmed by the appellant's test results dated 15 March 2004. Although according to those test results a large amount of resin precipitate is evident and a stable emulsion (dispersion) is not formed, claim 1 neither defines that emulsion stability further nor indicates any technical features different from D6 which may conceivably contribute to that stability.

7.3 Furthermore, the person skilled in the art is well aware how the stability of a dispersion/emulsion can be achieved, for example, by adding suitable surfactants. D6 itself makes reference to cationic surfactants which may be present in the hair fixative compositions (column 4, line 20). Although they are used in D6 as antistatic agents, surfactants in general have positive effects on stability of an emulsion/dispersion system. This is confirmed by the patent in suit, which also refers to surfactants for preparing the starting emulsions (page 3, lines 17 to 21). Consequently, the skilled person, when confronted with that additional stability problem, would use suitable means for preparing compositions in form of a stable emulsion/dispersion.

7.4 Consequently, the board comes to the same conclusion as the opposition division, when assessing inventive step starting from D6 as the closest state of the art, namely that the claimed subject-matter of the main request lacks an inventive step.

Auxiliary request

8. Claim 1 of the auxiliary request contains the feature "and further comprising up to 4% by weight of the polymer solids". As already indicated in the communication of the board that feature is not disclosed and not clear, because according to the application as filed that feature is only related to a "surfactant", which term however is missing from the present claim wording (Article 123(2) and 84 EPC).

8.1 Although the appellant has had the opportunity to remedy the objections raised with respect to that claim within a time limit of 1 month before oral proceedings, he did not address the board's communication at all. Since the board can decide upon the European patent only in the text submitted to it or agreed by the proprietor of the patent (Article 113(2) EPC), amendments to the claims cannot be made without the consent of the proprietor.

8.2 Furthermore, the formulation in amended claim 1 has no restrictive meaning compared to granted claim 1 which would avoid the reasoning for lack of inventive step outlined with respect to the main request (points 5. to 7. above), which reasoning thus applies *mutatis mutandis* to the auxiliary request as well.

8.3 Consequently, the auxiliary request is not allowable either.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar The Chairman

C. Eickhoff S. Perryman