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**Datasheet for the decision
of 11 October 2018**

Case Number: T 0990/17 - 3.3.10

Application Number: 10705150.0

Publication Number: 2400947

IPC: A61K8/41, A61K8/49, A61Q5/10

Language of the proceedings: EN

Title of invention:
HAIR DYEING COMPOSITION

Applicant:
BASF SE

Headword:

Relevant legal provisions:
EPC R. 139
EPC Art. 56

Keyword:

Correction of error - immediately evident that nothing else could have been intended (no) - main request, first and second auxiliary requests
Inventive step - (no) - third to fifth auxiliary requests

Decisions cited:

T 0197/86, T 0020/81

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 0990/17 - 3.3.10

D E C I S I O N
of Technical Board of Appeal 3.3.10
of 11 October 2018

Appellant: BASF SE
(Applicant) Carl-Bosch-Strasse 38
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Representative: Maiwald Patent- und Rechtsanwaltsgesellschaft
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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 9 November 2016
refusing European patent application No.
10705150.0 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman P. Gryczka
Members: R. Pérez Carlón
W. Van der Eijk

Summary of Facts and Submissions

- I. The appellant (applicant) lodged an appeal against the decision of the examining division to refuse European patent application No. 10705150.0.
- II. The documents cited in the examination proceedings included the following:

D2: GB 1 249 438
D3: WO 2006/108458 A1

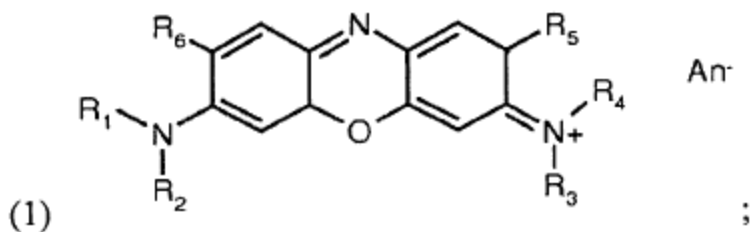
- III. The examining division concluded that document D2 was the closest prior art. The technical problem defined by the appellant of how to provide an improved hair dyeing composition was not credibly solved by the features of claim 1 and should be reformulated as how to provide an alternative composition. The claimed solution, which was characterised by the presence of compounds of formula (2) in its composition, was obvious in view of document D3.

- IV. With the statement setting out the grounds of appeal, the appellant filed a main request, which corresponded to the main request before the examining division, a first auxiliary request, and experimental evidence D4.

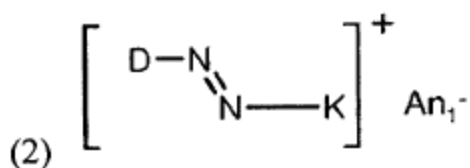
With a letter dated 19 July 2018, the appellant further filed its second to fifth auxiliary requests.

- V. Claim 1 of the main request reads as follows:

*"A hair dyeing composition comprising
(a) a dye of formula*

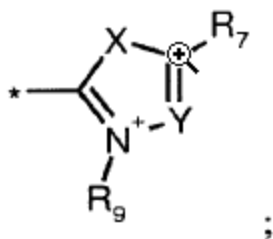


(b) at least one dye selected from the compounds of formulae



; wherein

D is the radical of a diazo component of the formula



K is the radical of a coupling component selected from aniline derivatives; phenol derivatives; and a radical of a heterocyclic coupling component;

X is -O-; -S-; or -N(R₈)-;

Y is -CH=; -CR₁₅=; or -N=;

R₁, R₂, R₃ and R₄ independently from each other are hydrogen; or C₁-C₄ alkyl;

R₅ and R₆ independently from each other are hydrogen; C₁-C₄ alkyl; or C₁-C₄ alkoxy;

R₇ and R₉ independently from each other are unsubstituted C₁-C₄ alkyl or which is substituted by OH-, C₁-C₄ alkoxy-, halogen-, amino-, C₁-C₄ -mono or -dialkylamino-

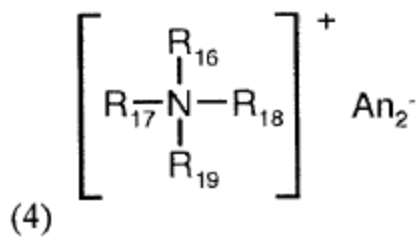
R₈ is hydrogen; or C₁-C₄ alkyl;

R₁₅ is hydrogen; or C₁-C₄ alkyl; and

An₁⁻ is a colorless anion; and

(c) a quaternary ammonium salt selected from

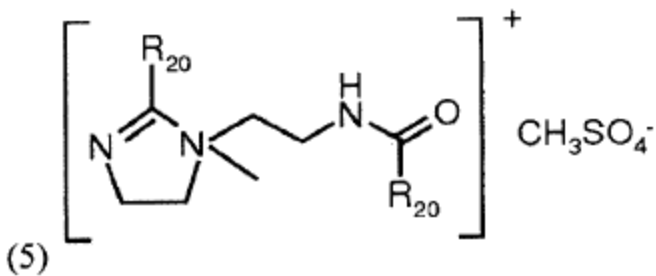
(c₁) quaternary ammonium salts of the formula



*R*₁₆, *R*₁₇, *R*₁₈ and *R*₁₉, independently from each other are a saturated or unsaturated, linear or branched, aliphatic C₁-C₃₀ alkyl; or an alkoxy, alkoxy-carbonylalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl or alkylaryl radical comprising from about 12 to about 30 carbon atoms, with at least one radical among *R*₁₆, *R*₁₇, *R*₁₈ and *R*₁₉ denoting a radical comprising from 8 to 30 carbon atoms;

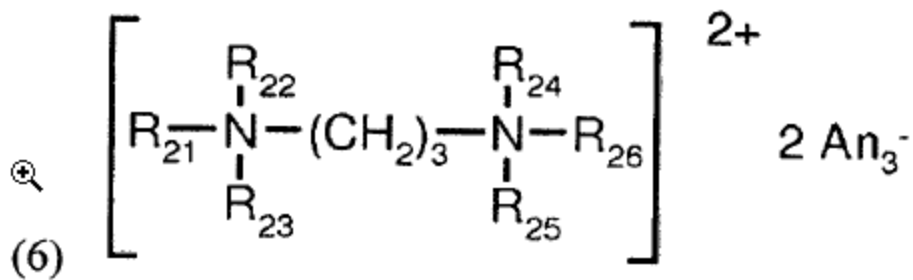
*An*₂⁻ is an anion selected from the group comprising halides, phosphates, acetates, lactates and alkyl sulphates;

(c₂) imidazolium salts of the formula



*R*₂₀ is C₁₃-C₃₁ alkyl or C₁₃-C₃₁ alkenyl, derived from tallow fatty acids;

(c₃) quaternary diammonium salts of the formula



in which

R_{21} is C_6-C_{31} alkyl;

R_{22} , R_{23} , R_{24} , R_{25} and R_{26} are selected from hydrogen; or C_1-C_4 alkyl; and

An_3^- is an anion selected from halides, acetates, phosphates and sulphates."

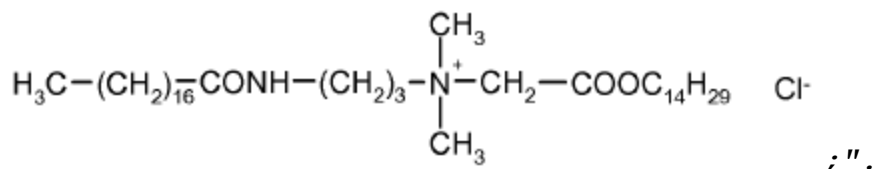
Claim 1 of the first and second auxiliary requests contain, like claim 1 of the main request, the feature

" R_{16} , R_{17} , R_{18} and R_{19} , independently from each other are a saturated or unsaturated, linear or branched, aliphatic C_1-C_{30} alkyl; or an alkoxy, alkoxyalkyl, polyoxyalkylene, alkylamido, alkylamidoalkyl, hydroxyalkyl, aromatic, aryl or alkylaryl radical comprising from about 12 to about 30 carbon atoms, with at least one radical among R_{16} , R_{17} , R_{18} and R_{19} denoting a radical comprising from 8 to 30 carbon atoms".

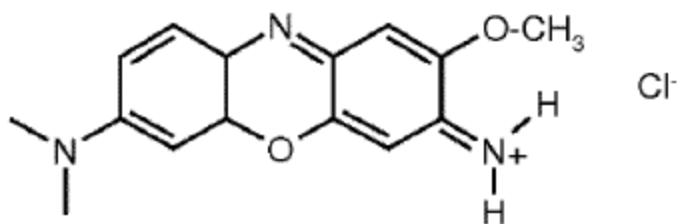
Claim 1 of the third auxiliary request differs from claim 1 of the main request in that quaternary ammonium salts (c_1) are selected from

"(c_{11}) dialkyl dimethylammonium or alkyltrimethylammonium salts in which the alkyl radical comprises from about 12 to about 22 carbon atoms, preferably distearyl dimethylammonium, cetyltrimethylammonium or behenyltrimethylammonium

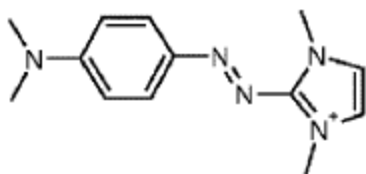
chloride, (C₁₂) di(C₁-C₂alkyl)(C₁₂-C₂₂alkyl)hydroxy(C₁-C₂alkyl)ammonium salts, preferably oleocetylhydroxyethylammonium chloride, and (C₁₃) stereamidopropyldimethyl (myristyl acetate) ammonium chloride of the formula:



Claim 1 of the fourth auxiliary request has the features of claim 1 of the third auxiliary request, and requires the compound of formula (1) to be of formula (7)



Lastly, claim 1 of the fifth auxiliary request, in addition to the features of claim 1 of the fourth auxiliary request, requires compound (2) to be of formula (8)



VI. In a communication in preparation for the oral proceedings, the board informed the appellant that it tended to consider that claim 1 of the main request and the first auxiliary request contained added subject-matter. With respect to inventive step, document D2 appeared to be the closest prior art. If the problem

was formulated as how to provide a hair dyeing composition having better fastness with respect to washing, it appeared that the experimental data filed as D4 could not show that this problem had been credibly solved by every embodiment of claim 1 of the main request and of the first auxiliary request. If the problem needed to be reformulated as how to provide an alternative hair dyeing composition, the board was inclined to concur with the reasoning and conclusions of the examining division, namely that the claimed subject-matter lacked inventive step.

VII. The arguments of the appellant relevant for the present decision were the following:

The application as originally filed did not provide any definition of the substituents R₁₇ and R₁₈ of formula (4), which was obviously due to an error. The obvious correction of that error was to give these substituents the same meaning as residues R₁₆ and R₁₉. For this reason, claim 1 of the main request and of the first and second auxiliary requests did not contain added subject-matter.

Document D2 was the closest prior art for the composition of claim 1 of the fifth auxiliary request. In terms of fastness to washing, experimental evidence D4 showed an improvement over the compositions of D2, which could not have been foreseen in view of the prior art. For this reason, said compositions were inventive.

VIII. Oral proceedings before the board of appeal took place on 11 October 2018.

IX. The final requests of the appellant were that the decision under appeal be set aside and that a patent be

granted on the basis of its main request or on the basis of its first to fifth auxiliary requests, the main request and first auxiliary request as filed with the grounds of appeal dated 7 March 2017, and the second to fifth auxiliary requests as filed with its letter dated 19 July 2018.

- X. At the end of the oral proceedings, the decision was announced.

Reasons for the Decision

1. The appeal is admissible.

Amendments; main request, first and second auxiliary requests

2. Claim 1 of the main request and first and second auxiliary requests requires a quaternary ammonium salt which can be of formula (4), whose substituents R_{17} and R_{18} are defined on page 2, lines 11 to 16, of claim 1 of the main request.

It is not in dispute that the application as originally filed provides no meaning for these substituents and thus that a mistake had occurred.

3. To support the definitions of R_{17} and R_{18} inserted into claim 1, the appellant relied on the wording of claim 1 as filed:

" R_{16} and R_{19} , independently from each other are [...], with at least one radical among R_{16} , R_{17} , R_{18} and R_{19} denoting a radical comprising from 8 to 30 carbon atoms".

Having regard to the latter feature, which included R_{17}

and R₁₈, the skilled reader would conclude that claim 1 should have been worded "R₁₆ to R₁₉ [...]" instead of R₁₆ and R₁₉. Thus, the definition of R₁₇ and R₁₈ in claim 1 resulted from an obvious correction, allowable under Rule 139 EPC.

However, the board does not consider this correction, although plausible, to be the sole possibility of correcting the error. By way of example, the more preferred embodiments (C₁₁), (C₁₂) and (C₁₃), include in all cases at least two methyl or two C₁-C₂ alkyl residues. It is thus also possible that R₁₇ and R₁₈ needed to be selected from alkyl, which would also be compatible with the restriction that at least one of R₁₆, R₁₇, R₁₈ and R₁₉ should comprise from 8 to 30 carbon atoms.

Under Rule 139 EPC, the issue is not whether the correction offered is the most plausible, but whether nothing else than the proposed correction could have been intended. In the present situation, the board concluded that it is not the case.

For these reasons, the amendment in claim 1 of the main request and first and second auxiliary requests does not represent an obvious correction within the meaning of Rule 139 EPC.

4. Since the amendment to claim 1 of these requests is not an obvious correction, and it is not contested that it does not find a basis in the application as originally filed, claim 1 of these requests contains added subject-matter, contrary to the requirements of Article 123(2) EPC, with the consequence that the main request and the first and second auxiliary requests are not

allowable.

Inventive step, fifth auxiliary request

5. Claim 1 of the fifth auxiliary request is directed to a hair dyeing composition comprising a dye of formula (7), a dye of formula (8) and a quaternary ammonium salt (c) selected from the groups (c₁), (c₂) and (c₃).

The compositions of claim 1 aim at solving the problem of having good fastness properties with respect to washing, light, shampooing and rubbing (page 1, lines 18 to 21).

6. Closest prior art

The appellant agrees with the examining division that document D2 represents the closest prior art. The board sees no reason to differ.

Examples 7 and 8 of document D2 disclose hair dyeing compositions comprising a diaminophenoxiazinium compound and a quaternary ammonium salt of formula (c₁). These compositions differ from those of claim 1 by virtue of the absence of compound (2) and in that it contains a diaminophenoxiazinium compound which is not of formula (7).

7. Technical problem underlying the invention

The appellant defines the technical problem underlying the claimed invention as how to provide a hair dyeing composition which makes it possible to improve fastness with respect to washing.

8. Solution

The solution to this technical problem is the claimed hair dyeing composition, characterised in that it contains at least one dye of formula (8) and a diaminophenoxazinium compound of formula (7).

9. Success

The appellant relied on the experimental results filed as D4 during these appeal proceedings to show that the problem as formulated above had been credibly solved by the features of claim 1.

According to the established case law of the boards of appeal, in cases where comparative tests are chosen to demonstrate an inventive step with an improved effect over a claimed area, the nature of the comparison with the closest prior art must be such that the effect is convincingly shown to have its origin in the characterising features of the invention. For this purpose, it may be necessary to modify the elements of comparison so that they differ only by such characterising features (see T 197/86, OJ EPO 1989, 371, Reasons 6.1.2 and 6.1.3).

The data in D4 compare a composition comprising compound (7) (Maxilon Blau M2G, Basic Blue 124) with a composition comprising both (7) and (8) (Vibracolor Ruby Red, Basic Red 51).

However, the composition tested does not contain any quaternary ammonium salt (c) according to claim 1, let alone the same quaternary salt as D2, since the sole ammonium salt present in that composition is Dehyquart F 75, INCI Distearoylethyl Hydroxyethylmonium

Methosulfate. For this reason alone, D4 does not provide a comparison showing the effect of the claimed solution.

The appellant argued that the data in D4 still allowed a comparison showing the effect of the distinguishing features, because the structure of Dehyquart F 75 was close to that of compound (c12), which also included an hydroxyethyl residue. However, c12 only has a long-chain alkyl substituent, whereas Dehyquart F 75 bears two distearoylethyl residues, which further contain an ester moiety. This argument of the appellant is thus not convincing.

As the comparison has not been carried out with a composition according to claim 1, it fails to prove an effect having its origin in the technical characteristics distinguishing the claimed invention from the closest prior art. The board thus concludes that it has not been demonstrated that the technical problem as formulated above is credibly solved by the claimed composition.

10. Reformulation of the technical problem

It is the established case law of the boards of appeal that alleged but unsupported advantages cannot be taken into consideration in determining the problem underlying the invention (see for instance decision T 20/81, OJ EPO 1982, 217, Reasons 3, last paragraph). As the alleged improvement in terms of fastness with respect to washing lacks the required support, the technical problem as defined above needs to be reformulated as how to provide an alternative hair dyeing composition.

This problem has been credibly solved by the composition of claim 1 of the fifth auxiliary request.

11. It thus remains to be decided whether or not the proposed solution to the objective problem defined above is obvious from the prior art.

Document D3 discloses hair dyeing compositions comprising a compound which can be that of formula (7) required by component (a) of claim 1 (Basic Blue 124, page 7, line 29), which can also contain a second dye (page 31, lines 14-17), such as that of formula (8) required by component (b) of claim 1 (page 35, line 1; Basic Red 51, page 35, penultimate line).

The skilled person, trying to obtain a hair dyeing composition alternative to those of D2, would turn to the disclosure of D3 and thus arrive at the claimed solution without using inventive skills.

For this reason, the composition of claim 1 of the fifth auxiliary request is not inventive, contrary to the requirements of Article 56 EPC, with the consequence that the fifth auxiliary request is not allowable.

Third and fourth auxiliary requests

12. As claim 1 of the third and fourth auxiliary requests include the composition of claim 1 of the fifth auxiliary request, the arguments with respect to the latter apply *mutatis mutandis*, with the consequence that none of these requests are allowable (Article 56 EPC).

Conclusion

13. As claim 1 of the main request and first and second auxiliary requests contains added subject-matter and the composition of claim 1 of the third to fifth auxiliary requests is not inventive, none of the requests on file are allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Rodríguez Rodríguez

P. Gryczka

Decision electronically authenticated