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**D E C I S I O N**  
of 8 October 1996

**Case Number:** T 0310/94 - 3.3.1

**Application Number:** 86102064.2

**Publication Number:** 0208829

**IPC:** C09B 67/26

**Language of the proceedings:** EN

**Title of invention:**  
Aqueous liquid dye composition

**Patentee:**  
SUMITOMO CHEMICAL COMPANY, LIMITED

**Opponent:**  
Bayer AG, Leverkusen Konzernverwaltung RP Patente Konzern

**Headword:**  
Dye Compositions/SUMITOMO

**Relevant legal provisions:**  
EPC Art. 54(1) to (4), 56, 84, 87, 102(3), 123(2)  
EPC R. 89

**Keyword:**  
"Main and first auxiliary request: right to priority (no) - novelty (yes) - inventive step (no)"  
"Second auxiliary request: added subject-matter (yes)"  
"Third auxiliary request: right to priority (yes) - novelty (yes) - inventive step (yes)"  
"Auxiliary requests: clarity - objection not arising out of amendment"

**Decisions cited:**  
T 0301/87

**Catchword:**  
-



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Boards of Appeal

Chambres de recours

Case Number: T 0310/94 - 3.3.1

**D E C I S I O N**  
of the Technical Board of Appeal 3.3.1  
of 8 October 1996

**Appellant:**  
(Proprietor of the patent) SUMITOMO CHEMICAL COMPANY, LIMITED  
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**Respondent:**  
(Opponent) Bayer AG, Leverkusen  
Konzernverwaltung RP  
Patente Konzern  
Bayerwerk  
D-51368 Leverkusen (DE)

**Representative:** -

**Decision under appeal:** Decision of the Opposition Division of the  
European Patent Office posted 2 February 1994  
revoking European patent No. 0 208 829 pursuant  
to Article 102(1) EPC.

**Composition of the Board:**

**Chairman:** A. J. Nuss  
**Members:** P. P. Bracke  
S. C. Perryman

## Summary of Facts of Submissions

I. This appeal is from the Opposition Division's decision revoking European patent No. 0 208 829, which was granted on the basis of European patent application No. 86 102 064.2, filed on 18 February 1986 and claiming priority from JP 157337/85 of 17 July 1985. The following contracting states were designated: BE, CH, DE, FR, GB, IT, LI, NL and SE.

II. By a decision announced orally on 24 November 1993, with the reasoned decision being issued on 2 February 1994, the patent was revoked on the ground that it lacked inventive step.

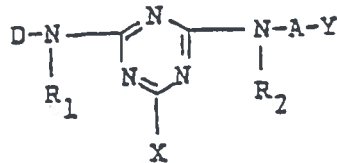
More particularly, the Opposition Division found that the claimed compositions were obvious over the prior art since it was known that in automatic dye-weighing systems the dye compositions were preferably in liquid form, acidic aqueous liquid dye compositions containing a reactive dye were described in several documents and a low salt content was known to have a positive effect on the storage-stability of reactive dyes.

III. The Appellant (Proprietor of the patent) lodged an appeal against this decision and, during the oral proceedings held on 8 October 1996, filed several sets of claims according to a main request and according to the first to fourth auxiliary requests.

The **main request** consisted of a set of eight claims for the contracting states BE, NL and SE and a set of eight claims for the contacting states CH, DE, FR, GB, IT and LI.

The independent Claim 1 for the contracting states BE, NL and SE reads:

"1. An aqueous liquid dye composition which comprises a bifunctional reactive dye of the following formula

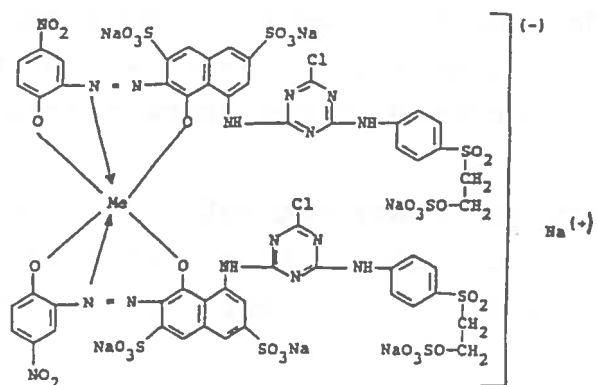


wherein D is an organic dye residue having at least one sulfonic acid group, R<sub>1</sub> and R<sub>2</sub> are independently a hydrogen atom or an unsubstituted or substituted lower alkyl group, A is an unsubstituted or substituted phenylene or naphthylene group, X is a halogen atom, and Y is -SO<sub>2</sub>CH=CH<sub>2</sub> or -SO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Z, in which Z is a group splittable by an alkali, in an amount of 5 to 50% by weight based on the weight of the liquid dye composition, the liquid dye composition having a pH value of not less than 3 but less than 5.5 and having an inorganic salt content of 1% by weight or less."

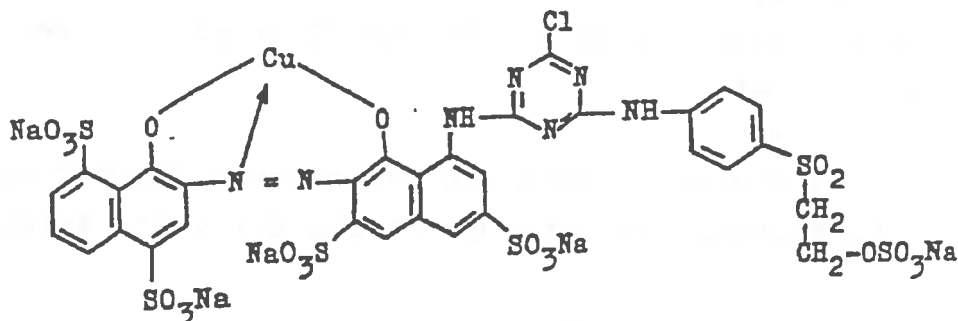
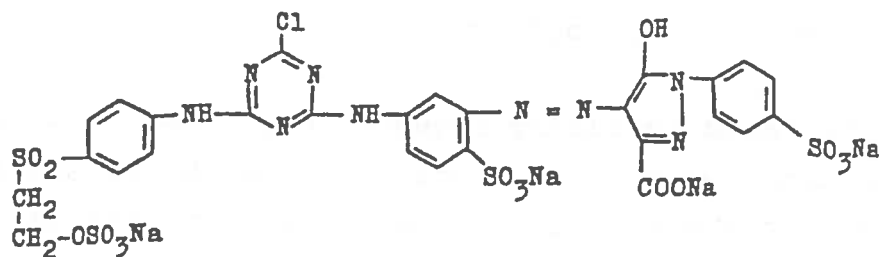
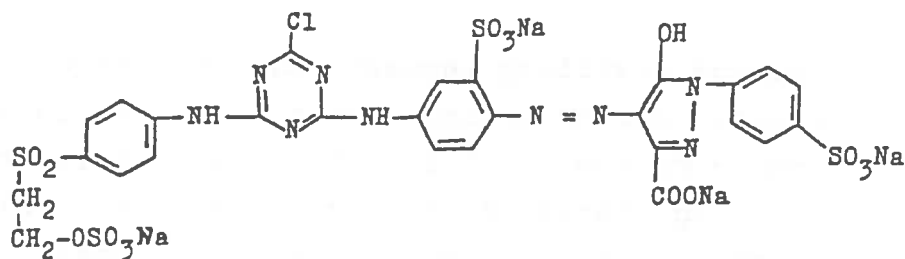
The independent Claims 6, 7 and 8 concern a method for producing the aqueous liquid dye composition of Claim 1, a method for storing such an aqueous liquid dye composition and a method for dyeing or printing fiber materials, which comprises using such an aqueous liquid dye composition.

In the set of claims for the contracting states CH, DE, FR, GB, IT and LI Claim 1 differed from that of the previous set of claims only by the presence of a disclaimer at the end of the wording, whereby the said disclaimer reads:

", with the proviso that bifunctional reactive dyes having the formulae



wherein Me stands for Cr and Co in a molar ratio of about 2:1;



are excluded."

The independent Claims 6, 7 and 8 correspond with that of the previous set of claims excluding the subject matter as defined in the above disclaimer.

The **first auxiliary request** also consisted of a set of claims for the contracting states BE, NL and SE and a set of claims for the contracting states CH, DE, FR, GB, IT and LI.

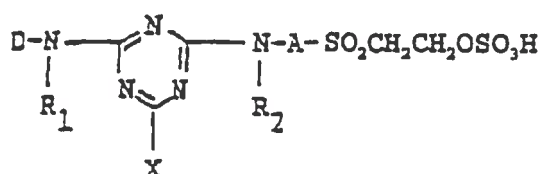
These sets of claims differed from those according to the main request by the inclusion of the further feature that the aqueous liquid compositions contain a buffer in a content of 1% by weight or less.

The **second auxiliary request** consisted of only one set of claims, corresponding with the set of claims according to the first auxiliary request for the contracting states BE, NL and SE, with the sole difference that the dye compositions contain 0.1% by weight or less buffer.

The **third auxiliary request**, consisted of a set of six claims for the contracting states BE, NL and SE and a set of six claims for the contracting states CH, DE, FR, GB, IT and LI.

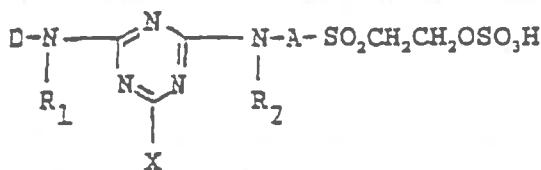
The independent claims in the set of claims for the contracting states BE, NL and SE of this request read as follows:

"1. An aqueous liquid dye composition which comprises a bifunctional reactive dye of the following formula



wherein D is an organic dye residue having at least one sulfonic acid group, R<sub>1</sub> and R<sub>2</sub> are independently a hydrogen atom or an unsubstituted or substituted lower alkyl group, A is an unsubstituted or substituted phenylene or naphthylene group, and X is a halogen atom, in an amount of 5 to 50% by weight based on the weight of the liquid dye composition, the liquid dye composition having a pH value of not less than 3 but less than 5.5, an inorganic salt content of 1% by weight or less and buffer in a content of 1% by weight or less."

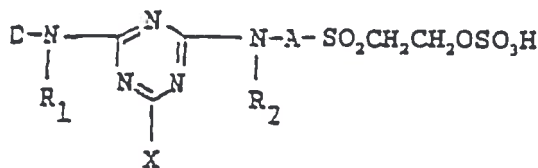
"4. A method for producing the aqueous liquid dye composition of Claim 1 which comprises the step of preparing an aqueous liquid composition comprising a bifunctional reactive dye of the following formula



wherein D is an organic dye residue having at least one sulfonic acid group, R<sub>1</sub> and R<sub>2</sub> are independently a hydrogen atom or an unsubstituted or substituted lower alkyl group, A is an unsubstituted or substituted phenylene or naphthylene group, and X is a halogen atom, in an amount of 5 to 50% by weight based on the weight of the liquid dye composition, the step of desalting the aqueous liquid composition to obtain an inorganic salt content of 1% by weight or less, and the step of adjusting the pH of the liquid composition within a range of not less than 3 but less than 5.5, whereby the content of buffer is 1% by weight or less"

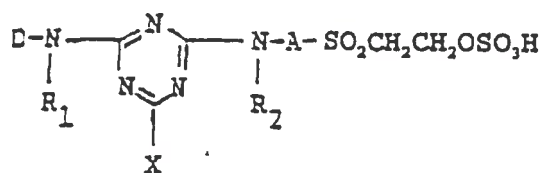
"5. A method for storing an aqueous liquid dye composition, which comprises preparing an aqueous liquid composition which contains a bifunctional

reactive dye of the following formula



wherein D is an organic dye residue having at least one sulfonic acid group, R<sub>1</sub> and R<sub>2</sub> are independently a hydrogen atom or an unsubstituted or substituted lower alkyl group, A is an unsubstituted or substituted phenylene or naphthylene group, and X is a halogen atom, in an amount of 5 to 50% by weight based on the weight of the liquid dye composition, and which composition has a pH value of not less than 3 but less than 5.5 as well as a content of 1% by weight or less of inorganic salt and a content of 1% by weight or less of a buffer, and storing the liquid dye composition in a closed vessel."

"6. A method for dyeing or printing fiber materials, which comprises using an aqueous liquid dye composition comprising a bifunctional reactive dye of the following formula



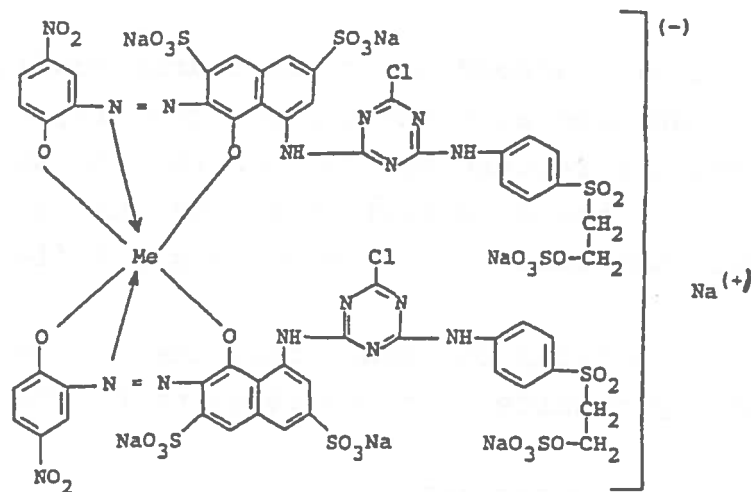
wherein D is an organic dye residue having at least one sulfonic acid group, R<sub>1</sub> and R<sub>2</sub> are independently a hydrogen atom or an unsubstituted or substituted lower alkyl group, A is an unsubstituted or substituted phenylene or naphthylene group, X is a halogen atom, and Y is -SO<sub>2</sub>CH=CH<sub>2</sub> or -SO<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Z, in which Z is a group



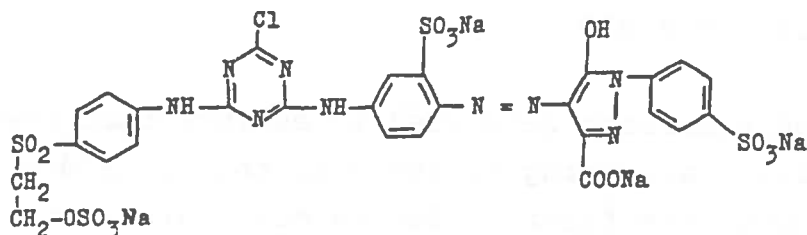
splittable by an alkali, in an amount of 5 to 50% by weight based on the weight of the liquid dye composition, and having a pH value of not less than 3 but less than 5.5 as well as a content of 1% by weight or less of inorganic salt and a content of 1% by weight or less of a buffer." (emphasis added)

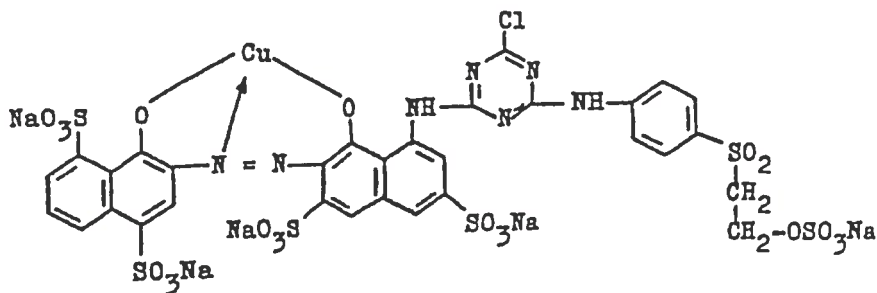
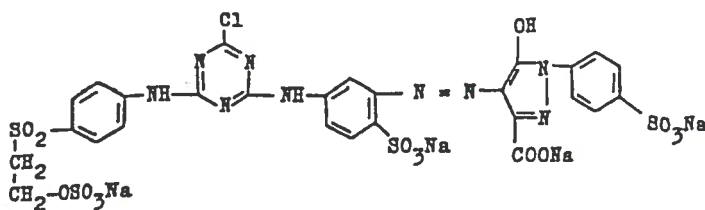
The set of claims for the contracting states CH, DE, FR, GB, IT and LI differed from the previous set of claims by the presence of a disclaimer at the end of the wording of each of the independent Claims 1, 5 and 6, whereby the disclaimer in Claim 1 reads:

", with the proviso that bifunctional reactive dyes having the formulae



wherein Me stands for Cr or Co in a molar ratio of about 2:1;





are excluded".

The claims according to the **fourth auxiliary request** corresponded with the claims according to the third auxiliary request for the contracting states BE, NL and SE, with the sole difference that the dye compositions contained less than 0.1% by weight buffer.

IV. From the cited documents only the following ones were finally considered to be relevant by the Parties:

- (1) EP-A-0 167 107,
- (3) EP-A-0 127 456,
- (4) DE-A-2 204 725,
- (5) DE-A-2 417 255,
- (6) Journal of the Society of Dyers and Colourists, 1968, pages 413 to 422,
- (7) EP-A-0 114 031 and
- (11) GB-A-838 337.

V. The Appellant submitted in essence that the sets of claims according to the main request and according to any of the first to fourth auxiliary requests were

entitled to the claimed priority date and, consequently, that document (1) did not belong to the state of the art according to Article 54(2) EPC.

Furthermore, the Appellant argued that the features of the claimed compositions in combination were not obviously derivable from the cited prior art.

- VI. The Respondent (Opponent) objected that the amended sets of claims did not meet the requirement of clarity set out in Article 84 EPC.

He further submitted that the claims according to the main request and the first and second auxiliary requests were not entitled to the claimed priority date. Since, consequently, document (1) was to be considered as state of the art for those claims and since it could be deduced from document (1) that the claimed compositions would be storage-stable at high and at low temperatures, he concluded that those sets of claims did not meet the requirement of inventive step.

He also contended that the claims according to the second and the fourth auxiliary requests did not meet the requirement of Article 123(2) EPC and that subject-matter of the claims according to the third and fourth auxiliary requests was obviously derivable from the cited prior art.

- VII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of any of the sets of claims according to the main request or first or second or third or fourth auxiliary requests submitted at the oral proceedings on 8 October 1996.

The Respondent requested that the appeal be dismissed.

## Reasons for the Decision

1. The appeal is admissible.

2. *Clarity*

The Respondent objected that the claims according to any of the first to fourth auxiliary requests did not meet the requirement of clarity, because in the claims a clear distinction between the buffer and the inorganic salt was not given.

However, this objection does not concern subject matter introduced in the claims during the opposition procedure, but was present in the claims as granted (see Claims 1 to 4 as granted). According to the established jurisprudence of the Boards of Appeal Article 102(3) EPC does not allow objections to be based upon Article 84 EPC if such objections do not arise out of the amendments made (see, for example, T 301/87, OJ EPO 1990, page 335, point 3). Therefore, the Respondent cannot challenge the validity of the patent on this basis.

3. *The main and the first auxiliary request*

3.1 *Priority*

According to Article 87(1) EPC, a right of priority may only be enjoyed for the same invention. Therefore, in deciding whether the claims according to the main request and according to the first auxiliary request are entitled to benefit from the priority of the previous Japanese patent application No. 157337/85 (see point I above), it needs to be decided whether in the priority document the **same invention** is described as in

those sets of claims. The main criterion in this respect is whether all essential features of the claimed invention are expressly disclosed in the priority document or directly and unambiguously implied by its text.

In the claims according to both the main and the first auxiliary request, it is an essential feature of the invention that the claimed compositions comprise a bifunctional reactive dye, wherein one of the fiber-reactive groups is represented by Y, which may be either  $-\text{SO}_2\text{CH}=\text{CH}_2$  or  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{Z}$ , in which Z is a group splittable by an alkali, whereas the priority document merely concerns bifunctional reactive dyes having in a free acid form a sulfatoethylsulfonyl group of the formula  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{OSO}_3\text{H}$  (see formula (I) on pages 1 and 2 of the priority document).

Therefore, in deciding whether the said claims are entitled to the priority date the question arises whether a skilled person would have interpreted the priority document in such a way that the dye compositions might also have included a dye containing, for example, a reactive group of the formula  $-\text{SO}_2\text{CH}=\text{CH}_2$ .

The Appellant argued that a skilled person would have done so, since on page 5, lines 20 to 24, of the priority document there is at least a hint that the sulfatoethylsulfonyl group of the dye may be replaced by a vinylsulfonyl group. When questioned on this by the Board at the oral proceedings, he also confirmed his view that a skilled person would have realised that the vinylsulfonyl group is merely the chemical equivalent of the sulfatoethylsulfonyl group. He argued that, even if in the assessment of novelty technical equivalents were not accepted as part of the disclosure, this was of no relevance when dealing with priority matters.

However, since the rest of the priority document is silent about dyes containing a vinylsulfonyl group and in the passage referred to by the Appellant it is specifically said that only small amounts of a vinylsulfonyl group may be present and that "the content of the vinylsulfonyl group-carrying dye is 10% by weight or less, preferably 5% by weight or less", there can be no doubt that a skilled person would interpret this document as meaning that dyes containing solely a vinylsulfonyl group besides a halotriazine group as a second reactive group are not among those suitable for being incorporated in the dye compositions of the invention. In view of this, there is no need to decide whether a claim to priority may be validly derived from a technical equivalent not mentioned in the priority document.

Therefore, the Board finds that the priority document is not concerned with the same invention as the one defined in the claims according to the main request or according to the first auxiliary request and, consequently, that those claims are not entitled to the priority date. Consequently, document (1) is part of the state of the art within the meaning of Article 54(2) EPC.

### 3.2 Novelty

Dye compositions containing different bifunctional reactive dyes according to the present invention are described in examples 9, 12, 13 and 15 of document (1). However, in order to avoid that document (1) would destroy the novelty of the claimed invention, those compositions were specifically disclaimed from the sets of claims for the contracting states CH, DE, FR, GB, IT and LI, which states were designated in document (1) (see point III above).

After examination of the cited prior art, the Board reached the conclusion that the claimed subject-matter is not described in any other document. Since the novelty was not further contested, it is not necessary to give detailed reasons for this finding.

### 3.3 Inventive step

3.3.1 The Board considers document (1) to be the closest state of the art. This was also accepted by both Parties.

3.3.2 Document (1) describes aqueous liquid dye compositions having a low salt content and containing preferably 15 to 50% by weight of reactive dyes and between 0.1 and 6% by weight of buffer and having preferably a pH between 4.0 and 5.5 (page 15, line 30 to page 16, line 11). Such compositions are said to be storage-stable, due to their low salt content, at increased temperature during several weeks and at temperatures as low as  $-10^{\circ}\text{C}$  during several months, without any precipitation and without any loss of their reactivity and, consequently, of their dyeing power (page 15, lines 16 to 28).

3.3.3 In view of the compositions disclosed in document (1), the problem underlying the invention must be seen in the provision of further aqueous liquid dye compositions comprising a bifunctional reactive dye, which are storage-stable at high as well as at low temperature without loss of reactivity (i.e. without hydrolysis of any of the reactive groups) and without any precipitation (page 2, lines 31 and 32, and page 10, lines 54 to 61, of the patent-in-suit).

3.3.4 According to Claim 1 of any of the two sets of claims according to the first auxiliary request this problem is solved by providing aqueous liquid dye compositions

having a pH value of not less than 3 but less than 5.5 and comprising 5 to 50% by weight of a bifunctional dye as defined therein, 1% by weight or less inorganic salt and 1% by weight or less of a buffer.

In view of examples 2 to 5 in the contested patent the Board is satisfied that the problem is indeed thereby credibly solved. This was not contested by the Appellant.

3.3.5 The only remaining question to be decided is whether it was obvious, in view of document (1), taken alone or in combination with other cited prior art, (i) to substitute the dyes known from examples 9, 12, 13 and 15 of document (1) (see point 3.2 above) by other reactive dyes having a similar chemical structure, (ii) to adjust the pH of the dye composition to a value not less than 3 but less than 5.5 by using 1% by weight or less of buffer and (iii) to reduce the inorganic salt content to 1% by weight or less, in order to obtain dye compositions, which are storage-stable over a long period of time at relatively low or high temperature.

3.3.6 It was not contested by the Appellant that aqueous soluble bifunctional reactive dyes containing an halotriazine reactive group as well as a reactive group Y, which may be either  $-\text{SO}_2\text{CH}=\text{CH}_2$  or  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{Z}$ , in which Z is a group splittable by an alkali, were known in the art and that relatively concentrated aqueous solutions of such dyes were known from document (1) to be storage-stable at high as well as at low temperature (page 15, lines 16 to 28).

It was also not contested that it was known from document (1), page 16, lines 6 to 11, that the pH of storage-stable aqueous dye compositions containing eg 15 to 50 % by weight of such reactive dyes is preferably between 4.0 and 5.5 (see page 16, lines 9 to



11) and that the amount of buffer used for adjusting the pH may be as low as 0.1 % by weight.

Finally, it was not contested that it was known from document (1) that, as already mentioned, the aqueous dye compositions described therein are storage-stable at high as well as at low temperature, due to their low salt content (see page 15, lines 17 to 28). Therefore, it must have been clear to a person skilled in the art that also bifunctional dyes very similar to those of examples 9, 12, 13 and 15 would be suitable for achieving storage stability at high as well as at low temperatures.

Moreover, since all of the features used for describing the aqueous liquid dye compositions, as set out in Claim 1 of any of the two sets of claims according to the first auxiliary request, were already described in document (1) when defining there suitable conditions for preparing storage-stable dye compositions under harsh conditions, the Board finds that a skilled person looking for further storage-stable aqueous liquid reactive dye compositions not only **could** have selected dye compositions showing all these features, but **would** have indeed selected them. Consequently, the Board concludes that the said claims do not meet the requirement of inventive step.

3.3.7 This conclusion cannot be overturned by the Appellant's argument that, although all features of the claimed compositions were known from document (1), this document was not restricted to **bifunctional** reactive dyes but also concerned **monofunctional** and **trifunctional** reactive dyes and, consequently, that

this document did not specifically disclose the possibility of stabilising aqueous reactive dye compositions containing bifunctional dyes, and, consequently, that the said combined features were not suggested in this document.

However, the Board cannot accept this argumentation, because different bifunctional dyes were specifically described in examples 9, 12, 13 and 15 and, consequently, a skilled person would have interpreted this document in such a way that the features described for dye compositions containing reactive groups in general, would also be valid for the specific case of bifunctional reactive dyes.

3.3.8 Although the above arguments are merely in connection with the claims according to the first auxiliary request, the same arguments would obviously also apply to the claims of the main request, since the claims according to that request embrace the subject-matter as defined in the claims according to the first auxiliary request.

4. *The second auxiliary request*

Article 123(2) EPC

Claims 1, 4, 5 and 6 contain the feature "and buffer in a content of **less than 0.1% by weight**".

The Appellant stated that from page 10, lines 39 to 42, of the patent as granted (which corresponds with the passage on page 15, lines 16 to 20, of the application as filed) it follows that the claimed compositions may contain 0.1% by weight of buffer and that they even may

contain 0% of buffer and, consequently, that it would have been evident for a skilled person that the claimed compositions may also contain less than 0.1% by weight of buffer.

However, since the above-mentioned passage in its entirety teaches that a certain buffer can exhibit a buffering effect even in a small amount as low as 0.1% by weight, in the Board's opinion the amount of 0.1% by weight of buffer is mentioned there only as an indication of the lower limit at which a certain buffer still exhibits a buffering effect and not, as inevitably follows from the said claims, as the upper limit at which a buffer may be contained in the composition. It is thus clear that by introducing the said amendment, the disclosure is altered in the sense that specific technical information contained in the original application has been converted into completely different technical information not previously disclosed.

Therefore, the Board concludes that by the feature "and buffer in a content of **less than 0.1% by weight**" subject-matter is added, which extends beyond the content of the application as filed, contrary to the requirement of Article 123(2) EPC.

5. *The third auxiliary request*

5.1 Priority

Since the claimed subject-matter is restricted to aqueous liquid dye compositions comprising a bifunctional reactive dye having, besides a halotriazine reactive group, a sulfatoethylsulfonyl

group, and since all other features of Claim 1 were already described in the priority document, the claimed subject-matter is entitled to the claimed priority date. This was not contested by the Respondent.

Consequently, although document (1) does not belong to the state of the art in the sense of Article 54(2) EPC, it is still state of the art in the sense of Article 54(3) and (4) EPC for the contracting states CH, DE, FR, GB, IT and LI (see point 5.2 below). This document is not to be considered however when dealing with inventive step in view of Article 56, second sentence, EPC.

## 5.2 Novelty

Since dye compositions containing any of the bifunctional reactive dyes described in examples 9, 12, 13 and 15 of document (1) are excluded by disclaimer from the wording of the claims for the contracting states CH, DE, FR, GB, IT and LI, i.e. the same contracting states as in document (1), and since in the remaining disclosure of document (1) other bifunctional reactive dyes according to the patent-in-suit are not disclosed, this document cannot be considered to destroy the novelty of the claims according to the third auxiliary request.

Because in none of the other cited documents all features of the claimed compositions are described, which was not contested by the Respondent, the Board concludes that both sets of claims meet the requirement of novelty over the cited prior art.

### 5.3 Inventive step

- 5.3.1 The Board considers document (5) to be the closest state of the art according to Article 54(2) EPC. This was also accepted by both Parties.
- 5.3.2 Document (5) describes liquid aqueous dye compositions containing 5 to 35% by weight of a reactive dye and 1 to 5% by weight of a buffer and having a pH-value between 3 and 7, preferably between 5.5 and 6.8 (see the last paragraph on hand-numbered page 1), which compositions are storage-stable at ambient temperature (several months) and at increased temperature (eight weeks at 50°C) (see the second full paragraph on hand-numbered page 14).
- 5.3.3 In view of the compositions disclosed in document (5), the problem underlying the invention must be seen in the further development of liquid aqueous reactive dye compositions, which can be stored for a long period of time even at relatively low or high temperature without hydrolysis of the fiber-reactive groups and which hardly produce gellation or crystallisation during the storage (see the patent in suit, page 2, lines 31 and 32 and page 10, lines 54 to 61).
- 5.3.4. According to Claim 1 for any set of contracting states, this problem is solved by providing aqueous liquid dye compositions containing (i) 5 to 50% by weight of a bifunctional reactive dye containing a halotriazine fiber-reactive group and a sulfatoethylsulfonyl fiber-reactive group, (ii) 1% by weight or less of an inorganic salt and (iii) 1% by weight or less of a buffer, the said aqueous liquid dye compositions having a pH-value of not less than 3 but less than 5.5.

5.3.5 In view of examples 2 to 5 in the contested patent the Board finds that the problem is indeed thereby credibly solved. This was not contested by the Respondent.

5.3.6 The only remaining question to be decided is whether it was obvious, in view of the cited prior art, to select (a) a bifunctional reactive dye according to Claim 1 of either sets of claims, (b) an inorganic salt content of 1% by weight or less, (c) a buffer content of 1% by weight or less and (d) a pH-value of the composition of not less than 3 but less than 5.5.

5.3.7 Referring to the last three lines on page 1 of document (7) and to the last paragraph of hand-numbered page 3 of document (5) the Respondent essentially argued that it was known that aqueous liquid reactive dye compositions could be rendered storage-stable if the pH of the composition is adjusted to about neutral or slightly acidic values and that this was not contradicted by the hydrolysis rates provided in Table 2 of document (6) for a reactive dye containing a halotriazine reactive group. Since it was also known from the paragraph bridging pages 2 and 3 of document (11) that even traces of a buffer can improve the storage stability of aqueous liquid reactive dye compositions and since it was known from the first paragraph of hand-numbered page 10 of document (4) and from the last paragraph on page 8 of document (5) that a low salt content has a positive effect on the stability of such compositions, he concluded that a skilled person looking for storage-stable aqueous liquid reactive dye compositions would have been directly lead to the proposed solution.

5.3.8 However, document (5), proposes as a solution for preparing aqueous liquid reactive dye compositions, which are storage-stable at ambient and at increased temperature, to incorporate 1 to 5% by weight of buffer

and to adjust the pH to a value of 3 to 7 (hand-numbered page 3, last paragraph). This document does not teach the possibility of making such dye compositions storage-stable under high and low temperature conditions by incorporating a buffer in a content of 1% by weight or less (eg 0%). Moreover, although the proposed pH-range of 3 to 7 in document (5) embraces the pH-range defined in Claim 1 as "not less than 3 but less than 5.5", the preferred pH-range is said in document (5) to be between 5.5 and 6.8 (see hand-numbered page 3, last but one line) and in none of the examples has a dye composition having a pH less than 5.5 been described.

Additionally, the passage referred to by the Respondent as proposing to reduce the salt content in order to improve the stability of the dye compositions has to be seen in the context of the whole teaching of document (5), saying in the third paragraph of hand-numbered page 10 that for preparing the dye compositions the reactive dyes may be used as obtained from the chemical preparation, but continuing in the paragraph bridging hand-numbered pages 10 and 11, that the salt content should be less than 50% by weight of the dye content, which is said to be up to 35% by weight, and further continuing that in dye compositions containing less than 15% by weight the salt content should be less than the dye content. Since the passage referred to by the Respondent is, consequently, concerned with salt contents greatly superior to 1% by weight of the complete composition, document (5) also does not suggest improving the storage-stability of aqueous liquid reactive dye compositions by reducing the salt content to 1% by weight or less.

Finally, although document (5) describes storage-stable liquid aqueous dye compositions in general, this document is silent about dye containing a halotriazine group as well as a sulfatoethylsulfonyl group.

Therefore, the Board finds that document (5) as such does not suggest the claimed dye compositions.

5.3.9 Document (7), which is concerned with a method of desalting aqueous liquid reactive dye compositions having a different chemical structure than the ones defined in the present claims and with compositions containing less than 1% by weight of inert salt (see page 3, second paragraph, and page 6, third paragraph) proposes in the last three lines on page 1 to adjust the pH to a neutral value. In the fourth paragraph on page 5, however, it is said that the pH is preferably in the range of 7 to 8, as illustrated by all the examples. Therefore, the Board cannot accept the Respondent's allegation, that document (7) would suggest for liquid reactive dye compositions, such as the claimed ones, a pH-value as defined in Claim 1.

Furthermore, since the rates of hydrolysis presented in Table 2 of document (6) are at their lowest at about pH 7, the Board sees no suggestion in that document to adjust the pH to a value below 5.5.

5.3.10 Document (4) describes a method of desalting dye compositions containing reactive dyes, which contain, for example, a halotriazine reactive group. Although it is said on hand-numbered page 10, lines 10 to 15, that the desalted dye compositions are storage-stable, it is clear from the complete teaching of the document that the problem encountered with high salt amounts was the solubility of the dye at low temperature (see hand-numbered page 5, lines 1 to 3) and in order to obtain dye compositions which are stable over a long period it



is desirable to add some additives, such as the ones described on page 10, lines 13 to 16. The document, however, gives no information on the pH value that should be used, or on stability at higher temperatures. Therefore the Board finds that to someone seeking to make aqueous liquid reactive dye compositions storage-stable over a long period of time at relatively high and at relatively low temperatures, even taken together with document (5), document (4) does not lead the skilled person to making something fulfilling all the requirements of the present claims.

5.3.11 Finally, also the teaching referred to in document (11) by the Respondent has to be seen in context with the whole teaching of the document. Although it is true that it is said in lines 126 to 128 of page 2 that even traces of buffer give some improvement in storage stability, this teaching is to be seen in combination with the rest of this paragraph, saying that 1% to 25% by weight **based on the weight of the dye compound** (see emphasized text) is preferred and that in practice 10% by weight of buffer, relative to the weight suffices. Therefore, the Board does not accept that document (11) could have suggested reducing the buffer content to 1% by weight or less of the dye composition.

5.3.12 Consequently, the Board concludes that neither from document (5) alone nor from its combination with any of documents (4), (6), (7) and/or (11) a skilled person could expect that the claimed compositions would be storage-stable at relatively high and relatively low temperatures for a long period of time.

5.3.13 Claims 2 and 3 in both sets of claims depend on Claim 1 and represent preferred embodiments thereof, and are, consequently, also not obvious in the light of the cited state of the art.

For the same reasons, Claims 4, 5 and 6 of both sets of claims, relating to a method of producing and storing the claimed dye composition, respectively, a method of dyeing or printing fiber materials by using the claimed dye compositions, are not obviously derivable from the cited state of the art either.

6. *Conclusion*

In view of the above, the grounds for revoking the patent in suit do not prejudice the maintenance of the patent on the basis of the claims according to the third auxiliary request for the contracting states BE, NL and SE, respectively for the contracting states CH, DE, FR, GB, IT and LI.

7. In the light of the above findings, there is no need to consider the fourth auxiliary request.

8. The present third auxiliary request corresponds with the "Second Auxiliary Request", filed by the Appellant with the letter of 9 September 1996, wherein it was said that this request differed from the other ones insofar as the substituent Y is defined as  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{OSO}_3\text{H}$ . The intention of the Appellant was thus clearly to limit the scope of the present third auxiliary request to dye compositions containing dyes having as reactive groups a halotriazine group and a  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{OSO}_3\text{H}$  group.

However, Claim 6 for the contracting states BE, NL and SE still contains the passage "and Y is  $-\text{SO}_2\text{CH}=\text{CH}_2$  or  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{Z}$ , in which Z is a group splittable by an alkali" (see text in bold). Since the chemical formula of that Claim 6 does not contain a group Y, it is clear

that this passage is redundant and, consequently, that the presence of this passage in Claim 6 of the third auxiliary request for BE, NL and SE is an obvious mistake and contrary to the intention of the Appellant expressed elsewhere.

Such an obvious mistake in the documents underlying a decision may however be corrected in accordance with Rule 89 EPC. With regard thereto the decision of 8 October 1996 is hereby corrected in that the wording "and Y is  $-\text{SO}_2\text{CH}=\text{CH}_2$  or  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{Z}$ , in which Z is a group splittable by an alkali" is deleted from the text of Claim 6 according to the third auxiliary request for the contracting states BE, NL and SE.

## Order

For these reasons it is decided that:

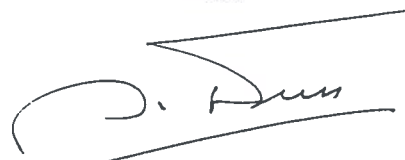
1. The decision under appeal is set aside.
2. The matter is remitted to the first instance with the order to maintain the patent on the basis of the sets of claims according to the third auxiliary request submitted at the oral proceedings on 8 October 1996 and subsequently corrected by the Board by the deletion of the wording "and Y is  $-\text{SO}_2\text{CH}=\text{CH}_2$  or  $-\text{SO}_2\text{CH}_2\text{CH}_2\text{Z}$ , in which Z is a group splittable by an alkali" from Claim 6 for the contracting states BE, NL and SE and a description yet to be adapted.

The Registrar:



E. Gorgmaier

The Chairman:



A. Nuss