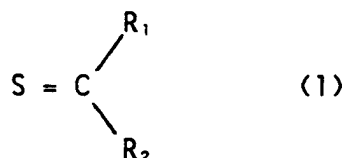


Examiners' Report on Paper B/1990 (Chemistry)

Candidates were expected to direct a newly drafted claim 1 to an aqueous colloidal solution of a hydrated oxide of Cu, Ni or Co, or a mixture thereof containing a hydrated antimony oxide and a stabiliser of the formula



in which R_1 and R_2 represent an amino group or an alkyl group with 1-6 carbon atoms and comprising moreover a reducing agent in a concentration of 1,9 to 2,6 g/l.

This claim clearly is novel with respect to document III. It can also be argued that it involves an inventive step over said document III since the aforementioned compound of formula (1) stabilizes the solution to such an extent that it can contain a reducing agent in a concentration sufficiently high for the developing step to be dispensed with.

This substantial advantage cannot be achieved when using, as a stabiliser, the compounds known from document III.

There was no need to argue for an inventive step for the claim defined in the new claim over document IV, because this document was published after the filing date of the application and therefore cited under article 54.3.

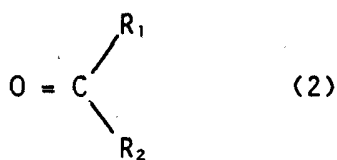
To properly assess the novelty of the new claim as specified above over document IV one had to consider the general principle that a broad group of compounds does not usually anticipate a specific compound or group of compounds falling within that group. Thus in the case in question the stabilizers in which $X = S$ form a group which falls mainly within the broad disclosure of document IV, but is not anticipated by said disclosure, inter alia, because document IV contains no disclosure of a specific compound falling within the definition of the stabilizers in which $X = S$ [reference is made in this respect to the Guidelines C IV 7.4 and the Decision of the Board of Appeal T7/86, Official Journal EPO (1988) page 381 which is also discussed in the Supplement of the Official Journal Nr. 9 (1989)]. It was held in that decision that a general structural formula having at least two variable groups does not specifically disclose each of the individual compounds resulting from combinations of different variants. It could also be argued that a combination of the selected compounds of formula (1) with the specific concentration range of 1,9 - 2,6 g/l of the reducing agent was not disclosed in document IV. In the case of the present application it meant that one could regard compounds of formula $R_1 \cdot CS \cdot R_2$ (2) in which R_1 and R_2 are alkyl groups with 1-6 carbon atoms as not being anticipated by the disclosure of document IV, the more so since a clear preference was given in that document for compounds wherein R_2 represents halogen.

The majority of the candidates correctly pointed out that no assessment as regards inventive step was necessary in respect of document IV (cited under article 54.3).

Very few candidates, however, reached the proper conclusion of the effect of document IV as regards novelty and therefore many candidates unnecessarily limited their claims.

A limitation which was of little use was to limit the compounds of formula (1) to those in which R_1 and R_2 both represented an alkyl group with 6 carbon atoms. It was not a good option, more particularly, since the application did not contain any indication revealing an interest for the compounds with 6 carbon atom alkyl groups. There was indeed no exemplification of compounds of this nature. The preferred compound containing an alkyl group described in the specification was $\text{CH}_3 \text{ CS NH}_2$.

Other candidates did not abandon the use, as stabiliser, of compounds of formula



in which both R_1 and R_2 could be alkyl groups with 1-6 carbon atoms. While this class of compounds was novel over document III, and certainly over document IV, their use was no basis for arguing for an inventive step. No advantage resulted from substituting in the class of compounds known from document III the NH_2 group by an alkyl group.

Some candidates included in newly drafted claims concentration ranges with limits for which there was no basis in the description of the original application. That was not acceptable under article 123.2.

A number of candidates omitted to mention in claim 1 all the constituents which necessarily had to be present in the aqueous colloidal solution so that a separate developer bath was not needed any more.

The majority of the candidates maintained claims to an activation process and/or metallisation process of non-conducting substrates using the aqueous colloidal solution of the type referred to. In many cases, however, candidates lost points because they maintained as a possibility the subsequent use of a developer bath.

Except for a very few, the majority of the candidates also maintained in the new set of claims, a claim directed to metallised articles obtainable by the previously described production process. In view of document III this "product-by-process claim" was no longer allowable (cf. Guidelines, part C, chapter III 4.7b), since it followed from the description of the application (cf. page 9, lines 14-16) that differences in the composition of the colloidal solutions and the activation process had no effect on the quality of the subsequently obtained metal layers. There was no evidence indicating that the articles were novel and therefore maintaining the aforementioned claim, regarded not to be allowable, resulted in marks being deducted.

Marks were also lost by a number of candidates because of missing dependent claims directed to characteristics of the invention which were preferred such as the concentration range of the hydrated antimony oxide (15-50, mole %), the concentration range of the stabiliser of formula (1): 0,5-2,5 g/l and the use of $\text{NH}_2 \cdot \text{CS} \cdot \text{NH}_2$ and $\text{NH}_2 \cdot \text{CS} \cdot \text{CH}_3$.

Other features deserving a special mention in a dependent claim were the use of hydrated copper oxide and the production of printed circuits. Failing to direct claims to these characteristics resulted in a loss of points.

The majority of the candidates showed themselves to be aware that they were expected to amend the description in order to acknowledge the prior art cited in the communication and to adapt the text of the description to the newly drafted claims. Points which attracted marks were the rewriting of the acknowledgements of the prior art to include a discussion of document III as representing the closest state of the art, of the description to define a problem-solution approach on the basis of this prior art, as well as the necessary amendment of the examples to indicate that some of the original examples were now comparative.

FORM, for use by individual examiners, in PAPER B

Schedule of marks

Category	Maximum possible	Individual marks awarded	Where grades awarded are not identical	
			Revision of marks/grade (if any)	Remarks*
Claims	20			
Argument	20			
Description	8			
TOTAL	48			
CORRESPONDING GRADE				

Translation of marks into grades:

- 0 - 6 Grade 7
- 7 - 13 Grade 6
- 14 - 20 Grade 5
- 21 - 27 Grade 4
- 28 - 34 Grade 3
- 35 - 41 Grade 2
- 42 - 48 Grade 1

* to be filled in if both the following requirements are fulfilled:

- (a) the grades awarded by the two individual examiners before their discussion differ by two grades or more;
- (b) the marks awarded by at least one of the two individual examiners have been changed during their discussion.

If remarks are to be filled in, they should briefly explain why the examiner has changed his marks.