

Examiners' Report on Paper A/1994 (Chemistry)

The candidates were expected to draw up claims for subject-matter which could find a fair basis in the client's letter. The letter should also form the basis for the introduction of the description which should accompany the claims.

The purpose of the description is not only to support the claims as required in Art. 84 EPC but it should also give additional information about the invention claimed. This refers e.g. to the background of the invention, in particular to the prior art, and to the problem to be overcome by the invention (cf. Rule 27(1)(b) and (c) EPC).

In view of this requirement the candidates were expected to summarise the prior art provided in a fair way and to identify the problem to be solved with respect to this prior art, e.g. by clearly indicating the advantages achieved and evidenced vis-a-vis the closest document. A reference in very general terms to improved properties was not considered to comply with Rule 27 (1) (c) EPC.

Many candidates summarised the two documents in the description correctly, some, however, disregarded parts of their disclosure. Document II demonstrates that the generic group of polyglycerol fatty acid esters and their use as emulsifiers in food industry was known. Document I identified only esters of a  $C_8$  or shorter fatty acid and indicated that the desired water-solubility would be insufficient if two of the following three conditions applied: short polyglycerol chain, long-chain fatty acids and high rates of esterification.

The particular polyglycerol esters (PGE) described by the client to be his invention and having 3-10 glycerol units in a polyglycerol chain esterified with at least 1 unit derived from saturated or unsaturated linear  $C_{12}$  to  $C_{26}$  fatty acids are therefore novel.

The candidates were expected to draw up claims directed to these particular compounds, a method for their preparation and a method for converting these compounds into a finely divided form. They were also expected to present claims directed to the use of these compounds, suitably worded, as emulsifiers or as foaming agents particularly in the food sector. Product claims to an aqueous emulsion in general and to specific food preparations, each containing these particular PGEs, and claims relating to the preparation of foamed food preparations were also expected.

The presence of vegetable gum was reported to be necessary to stabilise fully expanded edible foams containing the PGE compounds and the way it is incorporated into the foam was also expected to attract the candidates' attention.

Some candidates drew up a claim to all PGE compounds disclaiming only the two specific esters known from Document I. The subject-matter of such a claim was deemed not inventive in view of both documents, because it was clear from Document I itself that the disclosure of this document is not confined to the particular individual examples, and Document II suggests the use of such compounds in emulsions which could be foamed.

One important point in the Instructions to the Candidates did not receive the due attention of a number of candidates, namely: "This application should meet the requirements of the Convention as to unity."

The candidates were therefore expected to realise that there was another invention referred to in the client's letter for which a divisional application could

be filed. This divisional application should be based on a claim for the preparation of esters derived from polyols having at least 3 hydroxy groups and fatty acid esters which are based on acids liquid at reaction temperature. In accordance with the Instructions to Candidates, it was only necessary to state that a divisional application was intended to be filed and to identify the subject-matter to be claimed therein. It was not necessary to draft the wording of such a claim. If there was no suggestion of a lack of unity and an intention to file a divisional application, even if such a claim was presented, this resulted in the loss of marks.

This additional subject-matter was not restricted to the particular PGE compounds but it included the preparation of compounds known from the prior art (e.g. of any polyglycerol fatty acid ester). Therefore claims to the product obtainable (or obtained) by this process were deemed not acceptable (cf. the Guidelines C-III, 4.7b). This fact additionally demonstrates that a claim to this process has no common inventive concept with the particular new and inventive PGEs.

Many Candidates filed a claim to the PGE wherein at least one ester group is present and wherein the chain lengths of both the polyglycerol and of the fatty acid components were correctly defined. They were awarded the full marks obtainable for such product claims.

In a claim relating to the process for preparing these PGEs a number of candidates did not define all the essential features of the process or added further - according to client's letter - nonessential (e.g. preferred) features, thereby further limiting the claim. This resulted in the loss of marks.

Thus, the requirement that at least a part of the soap should be based on fatty acids having less than 15 C-atoms in their chain or even the clear fact that the molar ratios of the polyglycerol, the soap and the starting ester had been deemed essential by the client could not be found in the process claim of a number of candidates. Other candidates lost marks because they limited the claim to specific catalysts.

As indicated above, there was lack of unity, and therefore candidates who did not realise this and included only a process claim to the preparation of the polyol esters which included the preparation of known compounds lost a significant number of marks. Candidates who drew up claims to both preparation processes and indicated that a divisional application was intended for the second invention because of lack of unity were given the full marks.

Many candidates filed a claim to the conversion of the particular PGEs into fine particles as set out in the second paragraph of page 4. They were given full credit. A claim to such a treatment of waxy compounds in general created again lack of unity for the reasons referred to above.

A claim to emulsions comprising the PGEs in question was accepted.

Having regard to the fact that product claims are regarded as being of higher value than use claims because, in general, they give a broader protection, claims to the above emulsions or to edible emulsions and foams were given more marks than use claims. Nevertheless, additional use claims received additional marks.

Some candidates drew up a claim to a frozen dessert or ice cream (substitute) in which the percentages were not defined correctly. The last paragraph on page 5

made it clear that the amount of the bodying agent and the amount of the above mentioned non-aqueous ingredients altogether (i.e. including the bodying agent) should not exceed 45 and 55 percent by weight, respectively, of the total mixture. Accordingly, the bodying agent (which, of course, is a non-aqueous ingredient, and which could make up to 45 wt.% of the total mixture) could only be a part of these up to 55 wt.% of non-aqueous ingredients (cf. page 5, paragraph 2). Some claims did not reflect this fact but referred to the bodying agent as a separate component. This resulted in a loss of marks.

A number of candidates included an excessive number of optional features in a claim. The scope of a claim is defined by its mandatory features, not by optional ones which often render the claim unclear and ambiguous and, hence, resulted in a loss of marks. Such claims may often be objected to under Art. 84 EPC.

Some candidates apparently construed a claim relating to an emulsion or mixture **for use** ... to limit the subject-matter claimed. The Guidelines C-III, 4.8 clearly state that such a wording means "**suitable for**" and it usually cannot be used to delimit the claim from prior art.

Dependent claims to preferred embodiments could not get the full marks if they were appendant to claims the subject-matter of which was not novel.

According to the Instructions to Candidates the number of dependent claims should be kept to a reasonable number. No credit was given to dependent claims listing all alternative embodiments or relating to trivial items only. Candidates presenting an unreasonable number of dependent claims risk a loss of marks for contravening Rule 29 (5) EPC (cf. the Guidelines C-III, 5.1).

It has already been indicated that it was necessary to define the problem to be solved with respect to the closest prior art in the description. This problem was to make available emulsifiers for the food industry which could be used even at low concentrations and the use of which made it possible to prepare foamy, not butterlike products.

None of the two cited documents suggested that PGEs derived from linear C<sub>12</sub> to C<sub>26</sub> fatty acids would solve this problem.

Some candidates formulated the problem in a way which already contained at least some features of the solution. Such a wording of the problem was considered to be not correct and caused the loss of some marks.

**EXAMINATION COMMITTEE I**

Candidate No. ....

Paper A Schedule of marks (C)

Category	Maximum possible	Marks awarded by first examiners		Revision of marks / grade (if any) or marking of further examiners (if appropriate)	
		Exr .....	Exr .....	Exr .....	Exr .....
Independent claims	24				
Dependent claims	16				
Description	8				
Total	48				
Corresponding Grade					

Translation of marks into grades

Grade	
0 - 11	7
12 - 17	6
18 - 23	5
24 - 29	4
30 - 35	3
36 - 41	2
42 - 48	1

**Remarks by examiners** which must be given if both the following requirements are fulfilled:

- (a) the grades awarded by the two first examiners before their discussion differ by two grades or more;
  - (b) the marks awarded by at least one of the two first examiners have been changed during their discussion.
- If marks are revised, brief explanation should be given.

**Sub-Committee for Chemistry**

- Sub-Committee agrees on \_\_\_\_\_ marks and grade \_\_\_\_\_
- Sub-Committee does not agree on a grade

**Remarks by Sub-Committee** which must be given where the Sub-Committee does not agree on a grade

Grade recommended to Board by Committee I \_\_\_\_\_

**Remarks by Committee I**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Chairman of Committee I