

Examiners' Report on Paper A

The candidates will have realised that in Paper A (C)/1996 reference was made to Document I (DI) not only with respect to the state of the art and the technological background but also with respect to a number of aspects of the invention itself. As the Examiners were aware that not all the candidates are used to reading polymer formulae, it was intended to avoid the need to go too deeply into the formulae. The client's letter therefore related more to the differences between the siloxane macromer of DI and the reactive siloxane used in the invention (in particular on page 3) rather than to a totally different definition.

The invention related to a **particular type of polymer** and to **hard contact lenses** based on this type of polymer. The requirements for these compounds and shaped articles were clearly set out in the letter, i.e. the hydrophilicity (water wettability), expressed in terms of contact angle, the mechanical properties, e.g. "the required mechanical strength", in terms of Shore D hardness, and the water swelling which has an influence on oxygen permeability, wearing comfort and optical precision. The products should be *glass-clear* and *streak-free*. The latter requirement was already valid for the starting monomer mixture (see the top of page 5). It was further emphasised in the letter that the degree of polymerisation of the polymer was to be kept in "the required range" by the amount of initiator used in its preparation and the polymerisation temperature. These required and desired properties were said to be achieved by "copolymerising certain siloxane group containing monomers with certain copolymerisable comonomers in certain quantitative proportions (components (A) to (D))..."

It was also clear from the client's letter that **the starting materials** were known as commercial products, and that the client did not want too broad claiming (page 2). In the examiners' opinion, this should have prevented the candidates from drafting claims to the reactive siloxane and from defining the invention by using the indefinite terms "comprising" or "containing" and its equivalents in the other two official languages. On top of page 5, it was also made clear by the client that in addition to components (A) to (E) in their respective amounts no other substances may be present in the monomer mixture.

In view of the above facts, the candidates were expected to draw up claims relating to two main aspects: to the polymer itself and its preparation (see the Guidelines C-IV 9.5a), and to the contact lens (or the contact lens blank) and its manufacture. It was also possible to cover two further side aspects: the use of the polymer for containers and optical lenses (page 6). It is self-evident that claims to the use of the polymer in contact lenses were also possible.

Candidates who had drafted claims to the polymer, its preparation and use in contact lenses, to the contact lenses and their manufacture and to containers and to optical lenses were given full credit provided the claims contained all the necessary (qualitative *and* quantitative) limitations and features. It was neither deemed necessary nor appropriate to go beyond the content of the client's letter and to further generalise or expand its disclosure. The candidates were expected to rely on the information provided by the client and his definition of the invention. The client's letter should not have been considered to be a simple non-committal, not binding guideline to the agent (candidate) for drafting a patent application, but the clear instructions contained therein should have been followed.

Dependent claims were deemed helpful and appropriate and they were given credit when the letter contained data or information which provided some evidence for an advantage achievable by the feature in the respective claim. As set out in the Instructions to Candidates, such claims should be helpful as a fall back position. A mere listing of all possible limitations in form of claims was not deemed helpful and in accordance with Rule 29 (3) to (5) EPC. Drawing up such long sequences of

dependent claims only resulted in a loss of time.

In view of the penultimate paragraph on page 6 and in view of the first complete paragraph on page 5, two ways of wording the claim to the polymer were accepted: either as "polymer ... consisting of (A) ... (D)" or as a product-by-process claim (see the Guidelines C-III, 4.7b). It was, of course, expected that all essential features were defined in each independent claim or that reference was made to such a feature in an earlier independent claim. The same is true for the second aspect of the invention relating to the use of the polymers.

Therefore, each claim relating to the polymer as such was expected to contain references to the above mentioned properties and it should have defined the components of the polymer and their amounts. Any claim referring to the polymerisation process was expected to include the definitions of all the necessary components (A) to (E) in the monomer mixture and the maximum polymerisation temperature.

Any essential features missing in the independent claims (i.e. not defined either explicitly or by reference to another claim) resulted in a loss of marks. Marks were also lost when claims referred to polymers which were not defined in definite terms and which, hence, could comprise further components (contrary to the client's clear instructions). An argument in additional notes that the term "comprising" would not necessarily be an invitation to add something that might affect the invention has not been considered convincing.

Remarks from some candidates appeared to demonstrate that the question of unity was not clear to them. The Guidelines C-III, 7.2 and 7.7 refer to this question in clear words. If there is a *common* concept or principle (i.e. at least one common feature in all independent claims) which is *novel* and *inventive* then objection of lack of unity does not arise. If, however, all the features common to two independent claims do not contribute to the novelty or inventive step but are known from the prior art, then there is a plurality.

Some candidates suggested claims which were inconsistent with their description wherein a feature such as hydrophilicity was described as being essential, but the claims were silent in this respect. This resulted in the loss of marks.

Suggestions were made to file further applications which would extend far beyond the contents of the client's letter. These proposals were disregarded and may have only caused loss of time which could have been better used. An example for such a proposal was the polymerisation in mould of other polymers.

Document I made it clear that a contact angle as such is not a proper definition of a polymer on its own, but that its measurement under particular conditions could serve to define the hydrophilicity. Therefore simply referring to the contact angle as such in a product claim was not considered as being of great value and such a wording resulted in some loss of marks.

Marks were lost by a number of candidates due to the fact that essential features were not included in the wording of an independent claim (explicitly or by reference). Marks could also be lost by using the two-part form in an improper manner, e.g. by including known features in the characterising portion of the claim.

It was evident from formula (I) that in the $-(R^1-X)Si(R)-O-$ units exactly one R^1-X group is present per silicon atom. A change of this group to read e.g. $-(R^1-X)_kSi(R)-O-$ wherein a definition of k was given as " $k \geq 1$ " rendered the formula wrong. The only correct way to define the

number of R^1-X - groups was by adapting m accordingly. This should have been clear to the candidates from the

A number of candidates lost some marks by not realising that the definition of $m \geq 2$ in **DI** was inconsistent with the fact that according to the client's letter the number of R^1-X - groups could be as low as 1. In view of the $-(R^1-X)Si(R)-O-$ -group, m should have been defined to be "at least 1".

It has been pointed out above that the monomers were in principle all known and that the client wished a not too broad claiming. Nevertheless claims have been suggested for the reactive siloxanes and their preparation. The client referred unambiguously to **DI** to demonstrate that such a process was known.

The intention of some candidates was not quite clear when they suggested a set of claims including a claim to a product per se, a claim to the preparation of the product and a product obtainable in this process (*for the preparation of the product*). Against that background, the third type of claims was considered to be superfluous and was not given additional credit.

Reference is made to Rule 29 (6) EPC. A claim referring to an example in the description could not contribute to a good marking of the script.

The candidates were expected to state in the description the differing feature and the problem solved in view of document **DI**. The mere statement that the disadvantages of the prior art should be avoided by the invention was not considered to fully satisfy the requirements set out in the instructions to candidates as regards the description. A number of candidates referred to the data provided in **DI** and in the examples and they got credit for such a definition of the problem to be solved. Thus, a comparison of the examples of the invention with the examples of **DI** revealed that a higher Shore D-hardness was achieved in the present invention while clarity, contact angle and oxygen permeability were not impaired. The description was expected to contain a definition of the subject-matter claimed. It was acceptable to do this e.g. by reference to the particular claims.

Wrong assessment of novelty, e.g. demonstrated by claims to the reactive siloxane (**A'**) despite the statement in the third complete paragraph on page 2 of the client's letter, did not earn marks.

Precious time was lost by some candidates who provided a completely handwritten description instead of simply amending in handwriting the client's letter or cutting out parts of it.

EXAMINATION COMMITTEE I

Candidate No.

Paper A (Chemistry) Schedule of marks

Category	Maximum possible	Marks awarded		Revision of marks / grade (if any)	
		Exr	Exr	Exr	Exr
Independent claims	30				
Dependent claims	10				
Description	8				
Total	48				
Corresponding Grade					

Translation of marks into grades

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

Marking by further examiners if appropriate

	Independent claims	Dependent claims	Description	Total	Grade
Examiner					
Examiner					

Remarks (which must be given 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 marks are revised, a brief explanation should be given.

Sub-Committee for Chemistry agrees on marks and grade

Grade recommended to Board

The Hague, 23 August 1996

J. Combeau - Chairman of Committee I