

Examiners' Report Paper A 2008 (Chemistry)

Paper A concerned friction matches. The letter from the client presented a new type of friction matches. In order to overcome the problem that matches lose their head it was found that using beeswax assures very good adhesion of the head. The letter also described a composition for the head that works very well with the splint. However, it was clear from the letter that the head and splint also were advantageous by themselves.

The prior art in the paper consisted of a brochure from Redheads, a company producing matches, and a prior use mentioned in the client's letter. The brochure from Redheads discloses matches that have paraffin-wax-impregnated splints and heads that contain potassium chlorate, phosphorus sesquisulphide and sulphur. In order to avoid matches with loose heads in the box, these are detected and removed during production. Furthermore, the letter stated that the present applicant has already produced and sold matches in which fire-retardant material is incorporated at the end of the splint.

The candidates could not merely copy the wording of the claims from the paper. This represented a realistic situation, in which the patent attorney himself has to come up with the best wording. This has led to quite some variation in the wording of the claims. The claims as shown below, therefore, merely represent possible claims. Of course, claims having reduced scope attracted fewer marks.

Independent claims:

1. Composition (for use as head in a friction match) containing/comprising

- (a) 40-60 wt% potassium chlorate
- (b) 0.5-9 wt.% red amorphous phosphorus
- (c) 3-18 wt.% binder
- (d) up to 5 wt.% thickener
- (e) balance filler

This claim was worth up to **15 marks**.

Some candidates unnecessarily included the negative limitation that the composition contains no sulphur. Such candidates could lose up to **5 marks**. Other candidates used the expression "consisting of" to define the composition, but then went on to include other components in dependent claims. This lack of clarity resulted in the deduction of a few marks.

2. Splint for use in a friction match carrying a beeswax coating at least one end of the splint.

This claim was worth up to **15 marks**.

Many candidates limited this claim to a splint impregnated with fire-retardant. This was an unnecessary limitation, since the problem of poor adhesion of the head to the splint is solved by the beeswax. To solve the problem of poor adhesion, the match, therefore, does not need the fire-retardant. Candidates who did limit their claim in this way lost up to **6 marks**. The splint claim needed an intended use (for example "match splint" or "splint for use in a friction match"), because without such a limitation much larger or much smaller splints would also have been included in the claim. The absence of this intended use could lead to a deduction of **2 marks**. For the composition claim such an intended use was not deemed necessary. However, no marks were deducted if such a limitation was present. A large number of candidates drafted this claim in the form of a product-by-process claim. Since it was possible to formulate the claim as a normal product claim, a product-by-process claim was considered a less good formulation which resulted in the deduction of up to **5 marks**. Any further unnecessary limitation resulted in a deduction of **4 marks**.

3. Friction match comprising a splint and a head, the splint being as defined in claim 2 and/or the head as being defined in claim 1.

The claim to the match had to cover three possible matches, one having inventive splint and inventive head, one having inventive splint and conventional head and one having conventional splint and inventive head. A total of **18 marks** was available, **6 marks** for each of the matches. Drafted as product-by-process claim, **2 marks** per match were deducted. Unnecessary limitations, like for example limiting the claim to safety matches or strike-anywhere matches, led to a deduction of **2 marks** per limitation for each of the matches.

As is clear from the division of marks for the independent claims, candidates who did not realise that the head and the splint could be claimed separately lost a large number of marks. Candidates need to be familiar with the requirements of Rule 43(2) EPC. This does not, of course, mean that they only need to know when they cannot have several independent claims in the same category but also when they can. The letter of the client clearly indicated that the protection of the separate items was desired.

Claims to the processes of making the splint, the head and the match were also expected. They could have had the following wording:

4. Process for making a splint according to claim 2 in which a porous splint is dipped in molten beeswax followed by keeping the splints for 10 to 15 seconds at 55 to 60°C.

The following, broader definition, was also possible:

Process for making the match splint of claim 2 by coating the match with beeswax.

A total number of **5 marks** was available for these process claims.

The temperatures and duration for keeping the splints are essential for a claim directed to the dipping process. Not having these features led to a deduction of **2 marks** each. The dipping temperatures and the duration of the dipping were not essential in the claim. Limiting the claim that way led to a deduction of **2 marks**.

5a. Process for making a match comprising dipping the splint of claim 2 at least once into a liquid head match composition.

5b. Process for making a match comprising dipping a splint at least once into a liquid head match composition comprising the composition of claim 1 the liquid composition having a density of 1.1-1.4 g/cm³..

5c. Process for making a match comprising dipping the splint of claim 2 at least once into a liquid head match composition comprising the composition of claim 1, the liquid composition having a density of 1.1-1.4 g/cm³.

A total number of **5 marks** was available for process claims covering all three different matches.

The following use-claim also was considered a useful claim in the present case:

7. Use of beeswax for impregnating splints for friction matches.

In view of the available prior art, both the head and the splint (and of course also the whole match) are novel and involve an inventive step. The candidates then had to see if these two inventions could be considered unitary. Both the head and the splint solve the same technical problem, namely the poor adhesion of the head to the splint. This problem is solved for both head composition and the splint as can be seen from page 4, paragraph 2 (English version) and from example 3. The match and the splint should, therefore, be considered unitary in accordance with Article 82 EPC. Candidates who filed claims in a separate application got a maximum of two thirds of the marks available for those claims.

Rule 43(2) EPC gives three cases in which it is allowable to have two or more independent claims in the same category. These three cases are: (i) a plurality of interrelated products; (ii) different uses of a product or apparatus and (iii) alternative solutions to a particular problem where it is inappropriate to cover these alternatives with a single claim. In the guidelines C-II, 3.2 four examples of interrelated products are given: (i) plug and socket, (ii) transmitter and receiver, (iii) intermediate(s) and final chemical product and (iv) gene – gene construct – host – protein – medicament.

The present case of the match and the head composition is equivalent to the case of the plug and socket of Rule 43(2)(i) EPC and candidates were, therefore, expected to include independent claims to the head, the splint and the complete match.

Dependent claims:

The dependent claims could attract **25 marks**.

The letter of the client mentioned several very useful fall-back positions that had to be covered by dependent claims. The claim for the head should have had at least dependent claims directed to the compositions for strike anywhere matches and to the safety matches. For each of these compositions, **5 marks** were available. Other possibilities for dependent claims were the presence of specific fillers, colorants and fragrances.

An interesting preferred embodiment of the splint was the self-extinguishing nature of the splint. This claim was considered very useful and could attract 6 marks. Further dependent on this claim, one could claim the specific monoammonium phosphate, which attracted a further **2 marks**. The variation of the amount of wax along the length of the splint to influence its burning properties was also considered useful and could give **2 marks**. These dependent claims attracted most marks of the dependent claims.

The multiple dipping process, dependent on the process for making the splint, was also considered a useful fallback-position. This claim could attract **2 marks**.

As in previous years, there were an appreciable number of candidates who drafted a large number of dependent claims, most of them not providing useful fallback positions. Such a "shot-gun approach" is not effective. The time spent on drafting such claims could clearly be used more efficiently.

Candidates lost valuable time by drafting useless claims, for example, directed to the fire lit by the matches, use of the match to light a fire. Claims of this type, if clearly not valid, could even lead to a deduction of marks.

Description

The candidates were expected to provide a description providing a good support for the claims. A summary of the only document cited and the problem solved in view of the prior art were expected to be included. Also the description was expected to be suitably modified in order to be in good form. **15 marks** were available for the description.

As explained above, the application is considered to be unitary. Further applications covering different subject-matter were not expected, nor necessary.

Some descriptions were of very poor quality and therefore did not attract many marks. It is believed that spending some time writing the introduction of the description is time well spent.

Paper A (Chemistry) 2008 - Schedule of marks

Category	Maximum possible	Marks awarded	
		Marker	Marker
Head composition	15		
Splint	15		
Matches	18		
Method claims	12		
Independent claims	60		
Dependent claims	25		
Description	15		
Total	100		

Sub-Committee for Chemistry agrees on marks and recommends the following grade to the Examination Board:

☐ PASS
(50-100)

☐ FAIL
(0-49)
COMPENSABLE FAIL
(45-49, in case the candidate sits
the examination for the first time)

4 July 2008

Chairman of Examination Committee I