

Examiners' Report Paper B 2009 (Chemistry)

The application

The paper concerns edible materials for covering or coating food products and a method for preparing them.

The application claims edible coating materials having a composition consisting of:

10-50 wt.% beef or pork fat

25-65 wt.% milk and/or water

5-30 wt.% gelatine

0-25 wt.% binders and/or thickeners

and 0-5 wt.% salt.

Such a material is malleable, elastic and has a white colour. The application indicated that preferable materials comprise both milk and water and that in this case the weight ratio of milk to water is between 10:90 and 90:10. Such a composition has improved pouring properties and solidifies rapidly upon cooling, making it particularly suitable for directly forming the material in layer form.

A further feature disclosed is the total liquid content by which is meant the sum of milk and/or water contents. The total liquid content is required to be 25-65%, preferably 30-65% and more preferably 35-60%. This feature is said to lead to a flexible material, minimise fat content and gives the composition improved pouring properties (see paragraph [013]). The application also defines particular preferred compositions (see paragraphs [010] and [011]).

The method for preparing the covering or coating material comprises the preparation of the composition at a temperature of above 50°C, followed by shaping and cooling. The shaping of the composition into a layer preferably takes place by directly pouring out the composition and cooling it in this form. The material is said to have a good adherence to meat products. The coating material made by this method can be manufactured independently of the food products as ready to use slabs or films.

The material can also optionally be rolled to reduce its thickness (see paragraph [014]). The preferred methods for preparing the composition are disclosed in paragraph [012].

The prior Art

Documents D1 (Annex 3) and D2 (Annex 4) are novelty destroying for the claims of the application and both concern edible materials that are used to coat or cover meat or meat products.

D1 discloses an edible fat substitute composed of about 43% fat, 14% gelatine and 43% water. The material is prepared at elevated temperature which solidifies upon cooling. The coating is carried out by dipping the meat into the melted, liquid composition thus obtaining a coating in film form.

The subject-matter of claims 1 and 2 is not novel over D1, because D1 discloses a composition comprising the three essential components i.e. gelatine, fat and water. The document also discloses a method according to claim 5 and a coated food product according to claim 7. Claim 6 of the application was stated not to be inventive.

D2 discloses edible coating compositions comprising 25-65% fat, 5.5-31% milk and/or water, 0.5-14% gelatine, 0-5% table salt, 3-41% starch and 0.3-11.5% carrageenan (starch and carrageenan are preferred binders and thickeners according to the application). The composition is formed into an emulsion at elevated temperatures, transferred to a mould, heated and finally cooled. The product is obtained as a solid block that can be cut into desired form and thickness and used as a coating material. The document discloses cutting the block into layers or slices and using this material to coat food products.

The subject-matter of claim 1 is not novel over D2 as it discloses overlapping ranges for all the components of the food product. The composition of the specific example of D2 (paragraph [010]) is outside the overlapping ranges, but the example will have a milk to water ratio within the ratio claimed. Although D2 does not explicitly refer to the ratio, it is possible to derive such from the example. This document is also novelty destroying for claims 2 and 5-7.

The applicant's letter

The paper also included a letter from the applicant (Annex 5) which contains the information that the products obtained by pouring out as a film have a different structure than products obtained by cutting slices from larger blocks (such as those of D2) and that this improves the adhesion to food products.

Claims 55 marks in total

In the present paper there were several possibilities to amend the claims so that a novel and inventive subject-matter resulted.

Claims to the edible material (product claims) 25 marks in total

It was expected that the candidates formulate a new product by process claim of the following scope:

An edible material for covering or coating food products obtainable by preparing a composition consisting of in weight percent 10-50% beef or pork fat, 25-65% milk and/or water, 5-30% gelatine, 0-25% binders and/or thickeners and 0-5% salt at a temperature above 50°C, pouring it out as a layer and cooling.

The process step of pouring out as a layer leads to a new product as indicated by the applicant. The applicant also states in the letter that this product is the most valuable and has been sold in large quantities. Support and evidence for this is to be found both in the application as filed and in the letter of the applicant. This preferred formulation was worth the full 25 marks.

Deductions of up to 5 marks resulted from limiting the range of milk/water or limiting milk and water, or to special milk/water ratio.

As a less preferred alternative, appropriately limited edible material could be claimed, provided it was rendered novel and inventive over D1 and D2 by requiring the presence of both milk and water in the specified ratio and increasing the minimum content of milk and water to 35 wt%. This claim could be formulated as follows and was worth up to 15 marks:

An edible material for covering or coating food products consisting of 10-50 wt. % beef or pork fat, 35-65 wt. % milk and water, 5-30 wt. % gelatine, 0-25 wt. % binders and/or thickeners and 0-5 wt. % salt having a ratio of milk to water of 10:90 to 90:10

Deductions of up to 5 marks resulted from any unnecessary limitation e.g. 35-60 wt.% milk and water, film/slab form, to potato or modified starch or nitrite containing salt, etc. Failing to modify the total content of milk and water from 25-65 wt. % to 35-65 wt. % also lost up to 5 marks. Limiting the claims to the use of beef fat, if arguably novel, did not attract many marks.

If the milk to water ratio of 10:90 to 90:10 was missing, up to 3 marks were lost.

As indicated, 25 marks in total were available for product claims. No marks were lost or additionally gained if both the product by process and the product claims identified above were formulated.

Method claims up to 20 marks in total:

In addition the candidates were expected to formulate a method claim directed to making an edible material by preparing the originally claimed composition at a temperature above 50°C and pouring out the composition as a layer and cooling.

For this method claim the full 20 marks were available.

Unnecessary limitations led to deductions of up to 5 marks, examples of such limitations are the percentage of milk and/or water, milk and water, special milk/water ratio, or pouring on a conveyor belt. Limiting to specific emulsion preparation steps or temperatures led to a deduction of up to 2 marks each.

Up to 10 marks were allocated for a less preferred method for making a material containing milk and water, having a milk and water content between 35-65% and a defined milk/water ratio and comprising shaping and cooling.

It was unnecessary to including a pouring step as the novelty and inventive step of such a claim derives from the total liquid content. Therefore a deduction of up to 5 marks derives from pouring step. Not defining the essential milk to water ratio led to a deduction of 3 marks. If the original milk/and water content or 25-65 wt.% was retained 5 marks were lost.

Food product up to 2 marks

An independent claim directed to the coated food product was useful. Thus it was expected that claim 7 should have been retained. This was worth 2 marks.

Dependent claims 8 marks

In the present paper there were number of useful dependent claims that could be added. Also maintaining some of the claims (e.g. original claims 3 and 4) would merit some marks. In total 8 marks could be earned for dependent claims. These could e.g. be directed to the additional rolling step, or to the pouring out and cooling step being carried out on a conveyor belt, or the arrangement of a plastic foil on the layer.

General

Claims that clearly violated Article 123(2) EPC were severely punished. Furthermore, claims that were not novel over the prior art, would did not attract any marks. An example of such is the edible material of the original claim 1 in layer, slab or film form as both the material described in D1 and in D2 are in such form. In D1 the coating formed by dipping the meat product in the liquid composition is a film. The cut slabs or slices in document D2 also fall under such a definition.

Divisional applications were not expected.

Arguments up to a total of 45 marks**Amendments up to 11 marks**

The candidates were expected to indicate the features that have been amended and where the basis for the amendments was to be found. Arguments should be provided justifying any new combinations of features and the candidates should have also considered whether the basis for the dependent claims was affected by the amendments to the independent claims. Up to 2 marks each could be awarded for discussing clarity and unity, if appropriate.

When making the amendments, it is advisable not to deviate from the wording of the application. Features in the applicant's letter (Annex 5) or the prior art cannot be used to amend the claims. The letter or the prior art documents should not have been cited as the basis. Merely stating that there was a basis for the amendments or that the requirements of the respective articles are met, without substantive arguments, did not attract any marks.

Novelty up to 12 marks

Novelty arguments should include both a short summary of the prior art documents and the definition of the differing feature or features. It is not sufficient to repeat the claim wording and to state that D1 or D2 does not disclose the feature. Necessarily both documents needed to be treated for both product and method claims. A complete novelty analysis could attract up to 12 marks. It is important that the arguments presented are complete and consistent with the claims.

The product by process claim is novel with respect to documents D1 and D2 on the basis of the information contained in the applicant's letter that pouring out the composition in layer form results in a product with different properties. Neither document D1 nor document D2 discloses pouring out a composition in layer form.

The less preferred product claim is novel with respect to document D1 as it contained milk. Document D1 discloses a composition containing only water, fat and gelatine and therefore a composition containing milk is novel over it. D2 disclosed a composition with overlapping overall composition containing both milk and water. The less preferred composition is novel over D2 since the total milk and water content (35-65%) is higher than range disclosed in D2. For the case that 25-65% milk and water was claimed with the essential milk to water ratio, it was possible to argue that the subject-matter is novel as the only example of D2 from which a ratio is derivable, refers to 21.8 % of milk/water was a specific example, whereby 25-65% with the defined ratio could then be considered as a new selection from D2.

The method claimed containing a pouring step is novel with respect to document D1 as this document only discloses dipping. D2 discloses the preparation of the composition by emulsifying the ingredients, by transferring the composition to a mould and heating it to solidify as a block which was cut to slices. The method was novel as it contained a pouring step not disclosed in D2.

A method claim limited to the less preferred composition is novel due to the composition.

Inventive step up to 22 marks

The problem solution approach is expected to be used, starting from the closest prior art and the differing features. D2 is the closest prior art and the most promising starting point as it has most features in common with the application. D1 is less relevant from both the point of the composition as well as the way of application of the covering. Arguing for the choice of the closest prior art and indicating the difference gave up to 4 marks.

The problem should be defined starting from the difference and deriving the effects associated with the difference. It was evident from the application as filed that a high liquid content (cf. page 2, paragraph [006] and page 3, paragraph [013]) is advantageous. From the letter of the applicant it was derivable that the structure of the slab/film obtained by pouring is different from that according to D2 that are obtained by cutting slices from larger blocks. Due to this an improved adhesion to the food/meat product results. Up to 12 marks were available for discussing the outlined effects and the additional evidence of the applicant. It was possible to argue that a high total liquid content or a specific milk/water

content in combination with ratio made the composition especially suitable for forming a film by pouring it out and cooling.

It was important that the arguments were consistent with the claims and the rest of the application. Some candidates filed claims directed to a range of 25-65% milk/water but gave arguments for a higher milk/water content 35-65%.

Finally arguments should be provided as to why it was not obvious to arrive at the solution in view of the closest prior art for which up to 6 marks could be obtained.

Also for all types of claims the candidates were expected to argue that the knowledge of D1 would not help to arrive at the subject-matter.

We are pleased to note that many candidates used the structure of the problem-solution-approach as the framework for their arguments. They should however be aware that most of the marks awarded for argumentation are reserved for the content and the consistency of the arguments.

Model claims

1. An edible material for covering or coating food products obtainable by preparing a composition consisting of in weight percent 10-50% beef or pork fat, 25-65% milk and/or water, 5-30% gelatine, 0-25% binders and/or thickeners and 0-5% salt at a temperature above 50°C, pouring it out as a layer and cooling.
2. An edible material for covering or coating food products consisting of 10-50% beef or pork fat, 35-65% milk and water, 5-30% gelatine, 0-25% binders and/or thickeners and 0-5% salt having a ratio of milk to water of 10:90 to 90:10.
3. A material according to claim 1 or 2 where the composition consists of 13.9% pork fat, 8.3% gelatine, 36.0% water, 19.4% milk, 20.7% potato starch and 1.7% nitrite-containing salt.
4. A material according to claim 1 or 2 where the composition consists of 13.9% beef fat, 8.3% gelatine, 36.0% water, 18.4% milk, 11% potato starch, 9.7% carrageenan and 2.7% nitrite-containing salt.
5. A method for making an edible material for covering or coating food products comprising preparing a composition consisting of 10-50% beef or pork fat, 25-65% milk and/or water, 5-30% gelatine, 0-25% binders and/or thickeners and 0-5% salt at a temperature above 50°C and by pouring it out as a layer and cooling.
6. A method according to claim 5 comprising pouring out the composition on a conveyor belt.
7. A method according to claims 5 or 6 comprising arranging a plastic foil on the layer.
8. A method according to claims 5-7 comprising rolling the cooled paste to a thickness of 1.5 to 2.5 mm.
9. A method according to claims 5-8 where the cooling is carried out by means of flowing water, carbon dioxide or nitrogen.
10. Food products such as meat or meat products covered or coated with an edible material as claimed in claims 1-4.

EXAMINATION COMMITTEE I

Candidate No. _____

Paper B (Chemistry) 2009 - Schedule of marks

Category	Maximum possible	Marks awarded	
		Marker	Marker
Method	20		
Products	25		
Food Product	2		
Dependent claims	8		
Claims	55		
Amendments	11		
Novelty	12		
Inventive Step	22		
Arguments	45		
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)

3 July 2009

Chairman of Examination Committee I