

OPINION UNDER SECTION 74A

Patent	GB 2575549
Proprietor(s)	Kraft Foods Schweiz Holding GMBH
Exclusive Licensee	
Requester	Elkington + Fife
Observer(s)	Appleyard Lees on behalf of Kraft Foods Schweiz Holding GMBH
Date Opinion issued	24 June 2022

The Request

1. The comptroller has been requested to issue an opinion on the validity of GB 2575549 (the patent). The patent has a filing date of 14 June 2019 and claims priority from two earlier applications having an earliest date of 15 June 2018. The patent was granted on 1 September 2021 and remains in force.
2. Observations were received from Appleyard Lees acting on behalf of the proprietor Kraft Foods Schweiz Holding GMBH and observations in reply were received subsequently from the requester.
3. The request relies primarily on the three documents below, with arguments that the claims lack novelty and/or inventive step based on these documents. Further documents in support of the request were also filed and will be considered as necessary.

O1 - WO 2017/093309 A1 (NESTEC SA) 8 June 2017

O4 - US 2009/0239823 A1 (KISHIMOTO ET AL) 24 September 2009

O9 - WO 2007/059644 A1 (BARRY CALLEBAUT AG) 31 May 2007

4. The following registered trademarks are used throughout this opinion:

Nutriose (word mark) – Roquette Freres

Promitor (word mark) – Tate & Lyle Technology Ltd

Fibersol (figurative mark) – Matsutani Chemical Industry Co., Ltd.

Preliminary matters

5. One of the documents referred to in the request, US 2009/0239823 (O4) was included (as granted US patent US 8618078) as part of third-party observations submitted prior to grant. However, those third-party observations were not received until after the applicant had been informed that the application was in order (Section 18(4)). As such they were not considered by the examiner (Rule 33(5)).
6. Nevertheless, the applicant submitted voluntary amendments in response to the third-party observations, accompanied by a letter outlining how they considered the amendments distinguish the invention from the prior art. I do not believe the amendments would have been fully considered for novelty and inventive step by the examiner in view of her previous notification that the application was in order.
7. I will therefore consider O4 as part of this opinion.

The Patent

8. The patent relates to a chocolate composition, more particularly a reduced sugar chocolate composition in which soluble corn fibre is used as a replacement for added sugar. Additionally, the chocolate does not contain any sugar alcohols which might typically be used as a substitute for sugar. Such sugar alcohols are incompletely digested and overconsumption can give rise to bloating, diarrhoea and flatulence. Common sugar alcohols are maltitol, sorbitol, xylitol, erythritol and isomalt. The patent seeks to provide an improved reduced sugar chocolate composition which does not have the disadvantages associated with the prior art.
9. Soluble corn fibre (SCF) is defined in the patent as being obtained through the enzymatic hydrolysis of corn starch and being low in viscosity and water soluble. Further definition is provided as follows:

SCF may be described as a soluble gluco-fibre or a gluco-oligosaccharide. SCF comprises mainly glucose sub-units linked together by α -1,4 and α -1,6 glycosidic linkages. SCF also comprises some α -1,2 and α -1,3 glycosidic linkages between glucose sub-units which are indigestible in the human small intestine and therefore contribute to the relatively low digestibility of SCF, compared to sucrose for example.

SCF is an oligomer of glucose. SCF is not considered to be a polydextrose. Polydextrose is commonly known as a polysaccharide composed of randomly cross-linked glucose, containing minor amounts of sorbitol and acid. It is sold under trade names such as LITESSE and STA-LITE. Suitably the chocolate composition of this first aspect does not comprise

apolydextrose.

SCF is not considered to be a maltodextrin. Maltodextrin comprises glucose sub-units linked together predominantly by α -1,4 glycosidic linkages and is therefore readily digestible, much more readily digestible than SCF. Suitably the chocolate composition of this first aspect does not comprise maltodextrin.

Suitably the chocolate composition of this first aspect does not comprise polydextrose or maltodextrin.

The SCF may have a degree of polymerisation (DP) of less than 12, suitably less than 11, for example approximately 10. In some embodiments, the SCF has a DP of less than 10.

The DP of a typical polydextrose is greater than an SCF/glucose oligosaccharide. For example, the DP of a typical polydextrose is greater than 11, suitably greater than or approximately equal to 12.

The SCF may be a mixture of different glucose oligosaccharides, for example glucose oligosaccharides having different degrees of polymerisation. Therefore the DPs referred to above may represent average values. The SCF may comprise some sugar and/or monosaccharide (for example glucose) and some polysaccharide (for example having a DP greater than 10). However, the average degree of polymerisation described above and the contents of the SCF being mainly glucose oligosaccharide define the SCF as an oligosaccharide, rather than a polysaccharide such as polydextrose.

10. The skilled person is considered to be a food chemist specialising in chocolate and confectionary compositions, and they would be familiar with the above definitions.
11. There is however one point of likely confusion and that relates to the term maltodextrin. As stated above, SCF is not considered to be a maltodextrin, principally because maltodextrin is readily digestible such that it is not a dietary fibre. However, SCF is also known as digestion resistant maltodextrin or just resistant maltodextrin. It may even on occasion also be referred to as just maltodextrin. The skilled person would be aware of the potential for confusion and would use the context to determine whether the substance referred to was resistant maltodextrin or not.

Claims

12. The patent has a number of independent claims (see appendix for full list of claims).
13. Claim 1 is directed to a chocolate composition as follows:
 1. *A chocolate composition comprising a cocoa-derived product, sugar and soluble corn-fibre; wherein the chocolate composition comprises from 28*

to 48 wt% total sugars and from 10 to 25 wt% soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.

14. Claim 10 is directed to a process for making the chocolate composition:
10. *A process for the preparation of the chocolate composition according to any preceding claim, the process comprising the steps of:*
 - a) *mixing a coca derived product, sugar and soluble corn fibre to form a paste; and*
 - b) *processing the paste to form the chocolate composition by pasting, refining, tempering and/or conching.*
15. Claims 13 and 14 relate to the use of a soluble corn fibre in chocolate compositions:
13. *Use of a soluble corn fibre in a chocolate composition for reducing the total sugars of said composition; the use comprising including in the chocolate composition from 28 to 48 wt% total sugars and from 10 to 25 wt % soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.*
 14. *Use of a soluble corn fibre in a chocolate composition for improving the processing of said chocolate composition; the use comprising including in the chocolate composition from 28 to 48 wt% total sugars and from 10 to 25 wt% soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.*

Claim construction

16. As a first step in determining the validity of the patent I must correctly construe the claims. This means interpreting them in the light of the description and drawings as instructed by Section 125(1). In doing so I must interpret the claims in context through the eyes of the person skilled in the art. Ultimately the question is what the person skilled in the art would have understood the patentee to be using the language of the claims to mean. This approach has been confirmed in the decisions of the High Court in *Mylan v Yeda*¹ and the Court of Appeal in *Actavis v ICOS*².
17. The term *total sugars* used in the claims is defined in the description (as set out below, see page 7, lines 14-24). *Total sugars* is the total sugar content of the chocolate composition, including added sugar (e.g. sucrose), sugar from milk products, when present, and sugar from the SCF. I consider that this is consistent with the skilled person's understanding of total sugars.

“The chocolate composition may comprise different sugars from different

¹ *Generics UK Ltd (t/a Mylan) v Yeda Research and Dev. Co. Ltd & Anor* [2017] EWHC 2629 (Pat)

² *Actavis Group & Ors v ICOS Corp & Eli Lilly & Co.* [2017] EWCA Civ 1671

sources. This may be referred to as the total sugar content (total sugars) and is the value which may be displayed on a confectionary product to show a consumer the sugar content of the product. For example, the chocolate composition may comprise sucrose, dextrose, glucose syrup solids, fructose, lactose and maltose or any combination thereof. The chocolate composition may comprise sugar derived from milk products, such as skimmed milk powder, for example lactose. As discussed above, the SCF may comprise sugar in the form of monosaccharides such as glucose. Therefore the chocolate composition may comprise said sugars from the SCF incorporated into the chocolate composition. However, the majority of the total sugar content of such a chocolate composition may be the sugar added as part of the chocolate making recipe, typically sucrose. This may be conveniently referred to as "added sugar".

18. The reference to "sugar from the SCF" in the definition of *total sugars* does however seem to cast some doubt on how the amount of SCF in the chocolate composition is to be determined when some of the sugar content of the SCF may be indistinguishable from other sugars in the composition and/or there exists the possibility that such sugars could be *added sugar*. It is of course in the nature of the way that SCFs are formed, by hydrolysis of starch, that there are simpler sugars present, although the amount of such sugars may be reduced by further processing steps. I note that claim 4 requires that the SCF comprises 8 to 12 wt% sugar.
19. Whilst the drafter of claim 1 may have had in mind that the SCF is a readily available ingredient which includes a relatively well-defined proportion of sugar, such as Promitor 70 (70% fibre and less than 10% sugars), which is referred to in the specification, the claim is not to a method. Thus, whether or not a product falls within the scope of claim 1 should be determined by an analysis of the finished composition. However, such analysis may not reveal how much of the sugar is from the SCF. Accordingly, there is a lack of clarity regarding the scope of this claim and how the skilled person would interpret it, especially if trying to work out if a chocolate product falls within the scope of this claim.
20. Although the requester notes this issue in their request, they have not set out how the claim should be construed nor has the observer addressed this issue in their response.
21. For the purpose of this opinion, I consider that I can determine whether or not claim 1 lacks novelty or inventive step based on the SCF being a specific substance which contains a defined proportion of sugar. This effectively turns claim 1 into a product by process claim, i.e., a chocolate composition formed by addition of a particular SCF. I construe claim 1 accordingly. The reference in claim 1 to a composition comprising 10-25 wt% of SCF is interpreted as a composition formed by the addition of 10-25 wt% of a specific named SCF having a known sugar content (such that it is possible to determine the total sugars).
22. Claim 10 may be reasonably construed as a process comprising the step of adding 10-25 wt% of a named SCF product. Claims 13 and 14 are similarly construed as process claims involving adding 10 to 25 wt% of a named SCF.
23. The request also suggests that examples 3 and 4 of the patent cannot be worked by

the skilled person in view of the use of the term “*milk products*” on the ingredient list, without further specification of what those milk products are. These examples are compared directly with a “*full sugar reference chocolate*” and the “*milk products*” are identical for both the examples and the reference. It seems clear from both examples that a certain amount of sucrose in the chocolate recipe has been replaced with SCF in the form of Promitor 70R and no other changes have been made. I do not consider this would present any difficulty for the skilled person. However, there does indeed seem to be an error in the second half of table 6, which sets out the nutritional information of Example 4, as this information is the same as that for Example 3 which has less sugar replaced by Promitor than Example 4. I do not consider that this affects the skilled person’s understanding of the invention or ability to work it.

24. In relation to claim 14 the observer notes that the request does not provide any detail regarding how any of the prior art referred to improves the processing of the chocolate composition as apparently required by claim 14. This would seem to be a matter of how claim 14 should be construed, and to what extent it is necessary for the prior art to disclose an improvement in processing. As these issues were not addressed by the requester I cannot consider them and I have not therefore considered the validity of this claim.

O1 (WO 2017/093309) - Novelty

25. This document is directed to the use of amorphous porous particles for reducing sugar in food. The amorphous particles comprise sugar, a bulking agent and a surfactant. It is suggested that the nature of the particles allows the sugar to dissolve more easily during consumption of the food such that the consumer perceives more sweetness and the amount of sugar can be reduced accordingly. O1 also describes how polyols, i.e. sugar alcohols, are well known to have laxative effects.
26. The requester refers to the following passages of O1 (pages 12-13 & 19):

“In a preferred embodiment the amorphous porous particles of the present invention comprise sugar in the amount of 5 to 70%, preferably 10 to 50%, even more preferably 20 to 40%. In one preferred embodiment the amorphous porous particles of this invention comprise at least 70% sugar.
...

In an embodiment, the amorphous porous particles of the present invention comprise a bulking agent in the amount of 5 to 70%, for example 10 to 40%, for further example 10 to 30%, for still further example 40 to 70%. In one embodiment, the amorphous porous particles of the present invention comprise 10 to 25% of the bulking agent.

According to the present invention the bulking agent may be selected from the group consisting of polyols (sugar alcohols for example isomalt, sorbitol, maltitol, mannitol, xylitol, erythritol and hydrogenated starch hydrolysates) guar gum, psyllium husk, carnuba wax, glycerin, beta glucan, polysaccharides (such as starch or pectin for example), dietary fibres (including both insoluble and soluble fibres), polydextrose, methylcellulose,

maltodextrins, inulin, milk powder (for example skimmed milk powder), whey, demineralised whey powder, dextrins such as soluble wheat or corn dextrin (for example Nutriose®), soluble fibre such as Promitor® and any combination thereof.

...

In a preferred embodiment of the present invention the fat based confectionary product comprises 5 to 60% of the amorphous porous particles, preferably 10 to 50%, more preferably 20 to 40%.”

27. The requester argues that based on the disclosed amount of bulking agent in the porous particles, the use of Promitor as a bulking agent and the amount of porous particles in the confectionary product, the disclosure anticipates the claims of the patent. The requester states that based on the above percentages, a quantity of SCF can be calculated to be between 2% and 42% when 5-60% of amorphous particle content is used having a proportion of bulking agent of 40-70%, the bulking agent being SCF, e.g. Promitor. More particularly, the SCF may lie in the range 8-28% if the preferred range of 20-40% of amorphous particles is used. Such a range is very close to the 10-25% of SCF required by the claims of the patent.
28. The requester admits that the total sugar content cannot be derived but suggests it would lie within the required range.
29. However, at least in respect of the disclosure of the passages referred to above, I prefer the observer's response that such disclosure does not comprise a clear and unambiguous disclosure of any chocolate composition falling within the scope of the claims. The above passages do not constitute any specific disclosure and I consider that the skilled person would not expect the ranges to apply to all the different specified bulking agents. Furthermore, the disclosures of O1 apply to a number of different foods and not just chocolate. The skilled person would not expect all the ranges to be suitable for chocolate compositions.
30. Example 2 of O1 discloses a specific reduced sugar chocolate composition with an amorphous particle comprising Promitor as bulking agent. In that instance the ratio of sugar to Promitor is 70:30 for the amorphous particle with 3% sodium caseinate. The amorphous particles comprise 32 wt% of the finished chocolate. That amounts to 9.3% SCF and 21.7% added sugars in the finished product. The remaining ingredients are 29% whole milk powder, 14 % cocoa liquor, 24 % cocoa butter and 1 % lecithin.
31. Based on whole milk powder having a 38% lactose content and Promitor having a 10% sugar content, the total sugar content of the finished product is about 34%, The finished product therefore has a total sugar content falling within the 28 to 48 wt% range required by claim 1 but the SCF content of 9.3 wt% falls below the minimum required 10%.
32. I do not therefore consider that there is any specific disclosure in O1 which anticipates any of the claims of the patent.

O1 (WO 2017/093309) – Inventive step

33. As an alternative to their argument on a lack of novelty based on O1, the requester has also made the argument that the patent lack an inventive step based on O1 when combined with the skilled person's common general knowledge.
34. The only difference between the chocolate composition of Example 2 of O1 and the invention of the patent lies in the proportion of SCF which is just below the required level as set out above.
35. The skilled person would be interested in ways to make healthier chocolates by reducing the sugar content. I consider that, upon reading O1 and Example 2 therein, the skilled person would be motivated to investigate small changes to the recipe and to ascertain how those changes affect the organoleptic and processing properties of the resulting chocolate composition. The skilled person would have no reason to think that small changes to Example 2 would result in an unacceptable chocolate composition. They would be particularly curious as to the effects of reducing the sugar content.
36. I therefore consider that it would be obvious for the skilled person to recreate this recipe but using ratios of 67:33 or 60:40 for sucrose:Promitor rather than the 70:30 of the recipe, and to use Promitor 70 which has a sugar content of 10%. No other changes would be made. Such a change would result in a chocolate composition with a total sugar content of 33 wt% or 31 wt% respectively and an SCF content of 10.2% or 12.4%. These values fall within the ranges required by claim 1.
37. The observer argues that this is not obvious because O1 teaches that using bulking agents such as fibres in chocolate compositions leads to bitter aftertastes and adds undesirable bulk to the mixture, resulting in an increase in the viscosity of the mixture which adversely affects processing into a finished chocolate product. I do not consider that the skilled person would be concerned with this possibility based on a change from 9% to 12% of SCF. The skilled person would be motivated to try reducing the sugar further with a view to investigating the attributes of such chocolate compositions.
38. The requester points to the range of sugar to bulking agent ratios referred to in the description (as in the quoted passage above). However, as also outlined above, the skilled person would not contemplate that all these ratios were suitable for a chocolate composition. They would nevertheless find it obvious to make small changes to the specific chocolate composition recipe of Example 2, such as making small changes to the ratio of sugar to bulking agent in the amorphous particles or slightly increasing the proportion of amorphous particles in the recipe.
39. I therefore consider that claim 1 lacks an inventive step based on O1 and the skilled person's common general knowledge, it being obvious to the skilled person to make minor adjustments to the recipe of Example 2 with a view to decreasing the sugar content.
40. The requester considers that claims 2, 5 to 11 and 13 are explicitly or inherently disclosed by O1. It is my view that the features of claims 2, 6 to 9 and 13 only are disclosed in O1, and in view of the lack of inventive step of claim 1, these claims also

lack an inventive step.

41. In relation to claim 5, I consider that the skilled person would, in this instance, interpret added sugar as the quantity of sucrose added. In the case that the skilled person found it obvious to use a 67:33 ratio of sucrose:Promitor for the amorphous particles, then the added sucrose is 20.8%, such that it falls within the 20-30 wt% requirement of this claim. This claim is also considered to lack an inventive step.
42. Claims 10 and 11 refer to steps of a method for creating a finished chocolate product. Aside from the moulding step of claim 11, I would not say that the steps are inherently disclosed. They are nevertheless steps that are well known to the skilled person for creating finished chocolate products and as such these claims are also considered to lack an inventive step.
43. Claims 3 and 4 relate to the composition of the SCF. Promitor 70 has a suitable composition to meet the requirements of these claims such that they also lack an inventive step based on it being obvious to use Promitor 70.
44. The requester suggests claim 12 is a standard use of chocolate and I agree. Claim 12 therefore lacks an inventive step.
45. In summary, I consider that claims 1 to 13 all lack an inventive step based on O1.

O4 (US 2009/0239823 A1) – Novelty & Inventive Step

46. O4 deals generally with adding a hydrogenated hardly digestible dextrin to foodstuffs to make them healthier. In particular, example 6 of O4 provides a recipe for a chocolate composition which includes this hydrogenated hardly digestible dextrin. It further discloses that the hydrogenated hardly digestible dextrin is Fibersol-2H.
47. The requester appears to equate the use of Fibersol-2H in O4 with the use of Fibersol-2 in the patent. However, Fibersol-2 is a digestion-resistant maltodextrin whilst Fibersol-2H is a hydrogenated resistant maltodextrin. The two are distinct and I do not consider that the hydrogenated version is a soluble corn fibre.
48. Similarly, I do not consider a hydrogenated hardly digestible dextrin to be a soluble corn fibre. As pointed out by the observer, such substances would be known as hydrogenated starch hydrolysates. I do not agree with the requester's argument that a hydrogenated soluble corn fibre is still a soluble corn fibre for the purpose of the claims, the claims placing no limitation on the nature of the soluble corn fibre. The two are clearly different chemical entities.
49. As such I do not consider that O4 anticipates the claims of the patent.
50. The requester has also argued that O4 lacks an inventive step on the basis that "*it is clear that O7/O3 provides the motivation to replace Fibersol-2 with Promitor 70 and arrive at the patent*". However, as O4 does not refer to Fibersol-2, I cannot proceed to consider this argument.
51. I have not therefore analysed whether the patent lacks an inventive step based on O4.

52. I also offer no analysis on whether hydrogenated resistant maltodextrin would be considered a sugar alcohol. I consider further evidence would be required, particularly relating to the degree of hydrogenation.

O9 (WO 2007/059644 A1) – Novelty & Inventive Step

53. O9 discloses a reduced sugar chocolate composition where the sucrose content of a regular chocolate is replaced by a mixture of dietary fibres consisting of a dextrin, an inulin and an oligofructose.
54. The composition of interest is however a comparative example where the sugar has been replaced only by dextrin. The requester refers specifically to the chocolate composition shown as Comparative Example 3B in Table 1 of O9. This example consists of 24% sugar, 24% cocoa butter, 22.5% whole milk powder, 11.5% cocoa mass and 18% dextrin. The nature of the dextrin used in Example 3B is not disclosed, but the prior examples all specify that the dextrin is Nutriose FM10. I consider the skilled person would interpret the reference to dextrin in Example 3B as a reference to Nutriose FM10.
55. Nutriose FM10 is a soluble fibre comprising up to 15% mono- and di-saccharides. The lactose content of whole milk powder is 38%. Cocoa butter has no sugar content and cocoa mass contains a negligible amount of sugar (<2%).
56. With this information it is possible to determine the total sugars for Example 3B which is 32.6-35.3 wt% dependant on how much sugar is in the Nutriose FM10 (i.e. from 0 to 15%).
57. Example 3B therefore discloses a chocolate composition having a total sugar content within the required 28-48 wt% range of claim 1 of the patent and a Nutriose FM10 content of 18% which falls within the 10-25 wt% range of SCF required.
58. The observer disputes however that Nutriose FM10 is a soluble corn fibre. Both the requester and the observer have submitted documents describing the composition of Nutriose FM10.
59. The observer has submitted document O12³. This document compares the effects of soluble fibre dextrin and soluble corn fibre on the digestive systems of rats. It defines the two substances as follows:

Soluble fibre dextrin (SFD) is an indigestible dextrin produced when corn starch is treated with heat and acid, and SCF is produced by isolating an oligosaccharide-rich fraction from corn syrup.

60. The document then goes on to specify that the SFD is Nutriose and the SCF is Promitor.

61. The patent defines SCF as being obtained through the enzymatic hydrolysis of corn

³ "Soluble Fibre Dextrin and Soluble Corn Fiber Supplementation Modify Indices of Health in Cecum and Colon of Sprague-Dawley Rats", Knapp, B.K., Bauer, L. L., Swansom, K. S., Tappenden, K. A. & Fahey Jr., G. C. Nutrients 2013, Issue 5.

starch, such that, compared with the definitions in O12, the SFD of O12 appears to more closely match the definition in the patent than the SCF. I do not consider that this helps in determining whether or not Nutriose is a SCF. As the requester also points out in their observations in reply, O12 refers only to Nutriose and not any of the variants, e.g., FM 06, FB10 or FM10. It is not therefore clear that it is the same product as described in O9.

62. The observer also questions the composition of Nutriose as set out in O8c⁴ which describes Nutriose as:

“a mixture of glucose polymers with a fairly narrow range of molecular weight (number average Mol. Wt., Mw = 2600 g/mol; weight average Mol. Wt., Mw = 5000 g/Mol). The degree of polymerization is 12-25”.

63. The observer goes on to point out that this differs from the characteristics of SCF provided in the patent which suggest that SCF has a degree of polymerisation (DP) of less than 12. However, as the requester notes, this is only set out as a preferred DP and does not rule out higher DPs. Perhaps more importantly, as with O12, O8c refers only to Nutriose without specifying a particular variant. It is not therefore apparent that Nutriose FM10 has the same DP⁵.

64. O8 is the Product Specification Sheet for Nutriose FM10. O8 describes it thus:

*Product Name: NUTRIOSE FM10
Nutriose Soluble Fibre is a resistant dextrin.
Labelling regulations vary from one country to another.
Nutriose can be labelled with the following options: “Soluble maize fiber” or “Fiber obtained from maize” or “Soluble maize fiber: resistant dextrin” or “Soluble fiber, sugars”*

65. O8 also specifies a Dextrose Equivalent (DE) of approximately 10 which would equate to a DP of about 12.⁶
66. O8b is the material safety data sheet for Nutriose FM10 which refers to it as a partially hydrolyzed maize starch by heating in the presence of food-grade acid.
67. O8a⁷ is a list of recipes for a variety of different foods where Nutriose has been used to reduce the amount of sugar required. This does not provide any help regarding determining whether or not Nutriose is an SCF.
68. I consider that the skilled person would rely heavily on the product specification sheet and other data published by the manufacturer of Nutriose in determining whether or not it is an SCF. Primarily, the fact that it may be labelled as soluble

⁴ “Effects of a soluble dietary fibre Nutriose 4 on colonic fermentation and excretion rates in rats”; Guerin-Deremaux, L., Ringard, F., Desailly, F. & Wils, F. Nutrition Research and Practice 2010; 4(6):470-476.

⁵ This DP appears to relate to Nutriose 6, and Nutriose 10 has a DP of 4 to 10. See Table 1 of FDA GRAS Notice (GRN) No. 436. Note this GRN is referred to in O8.

⁶ As a rule of thumb $DE \times DP = 120$. See www.wikipedia.org/Dextrose_equivalent

⁷ “Concepts that can be realised with a pea-based NUTRIOSE”, Roquette Freres. See www.roquette.com/-/media/documentation/concepts-pea-based-nutriose/concepts-with-a-pea-based-nutriose.pdf

maize fiber indicates that a national food regulating body considers that to be an appropriate description. This would be an important factor for someone working in the food industry seeking to create healthy reduced sugar alternatives. The fact that it is also considered resistant, that it is made by partial hydrolysis of starch and that it is completely soluble in water are also important considerations that point to it being an SCF. In my opinion the skilled person would consider that Nutriose FM 10 is an SCF.

69. This being the case Example 3B of O9 is considered to fall within the scope of claim 1 such that it lacks novelty.
70. The requester suggests claims 2, 5 to 11, and 13 are explicitly or inherently disclosed. I agree that claims 2, 5 to 9 and 13 are explicitly disclosed and these claims are anticipated by O9. Claims 10 and 11 include steps which would be obvious to the skilled person and these claims lack an inventive step.
71. I also agree that claim 12 relates to a standard use of chocolate such it too lacks an inventive step.

Opinion

72. Based on the evidence and arguments provided, it is my opinion that claim 1 lacks novelty in view of Example 3B of O9 and lacks an inventive step in light of Example 2 of O1 when combined with the skilled person's common general knowledge. The patent is accordingly considered to be invalid.
73. It is also my opinion that claims 2, 5 to 9 and 13 are anticipated by O9, and that claims 10 to 12 lack an inventive step based on this document and common general knowledge.
74. I further consider that claims 2 to 13 lack an inventive step based on O1.

Application for review

75. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

Matthew Jefferson
Examiner

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.

Appendix – Claims

1. A chocolate composition comprising a cocoa-derived product, sugar and soluble corn fibre; wherein the chocolate composition comprises from 28 to 48 wt% total sugars and from 10 to 25 wt% soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.
2. The chocolate composition according to claim 1, wherein the sugar comprises sucrose.
3. The chocolate composition according to claim 1 or claim 2, wherein the soluble corn fibre comprises 65 to 75 wt% dietary fibre on a dry weight basis.
4. The chocolate composition according to any one of the preceding claims, wherein the soluble corn fibre comprises 8 to 12 wt% sugar.
5. The chocolate composition according to any one of the preceding claims comprising 20 to 30 wt% added sugar and/or 35 to 45 wt% total sugars.
6. The chocolate composition according to any one of the preceding claims which is a milk chocolate.
7. The chocolate composition according to any one of the preceding claims, wherein the chocolate composition does not comprise polydextrose.
8. The chocolate composition according to any one of the preceding claims, wherein the chocolate composition does not comprise polydextrose, inulin, FOS, GOS, XOS, and intense sweeteners.
9. The chocolate composition according to any one of the preceding claims consisting essentially of a cocoa-derived product, fat, milk solids, SCF and sugar.
10. A process for the preparation of the chocolate composition according to any preceding claim, the process comprising the steps of:
 - a) mixing a cocoa-derived product, sugar and soluble corn fibre to form a paste; and
 - b) processing the paste to form the chocolate composition by pasting, refining, tempering and/or conching.
11. The process according to claim 10 comprising a further step c) of moulding or extruding the chocolate composition to form a bar.
12. The process according to claim 10 comprising a further step c) of coating the chocolate composition onto a product.
13. Use of a soluble corn fibre in a chocolate composition for reducing the total sugars of said chocolate composition; the use comprising including in the chocolate composition from 28 to 48 wt% total sugars and from 10 to 25 wt% soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.
14. Use of a soluble corn fibre in a chocolate composition for improving the processing of said chocolate composition; the use comprising including in the chocolate composition from 28 to 48 wt% total sugars and from 10 to 25 wt% soluble corn fibre; wherein the chocolate composition does not comprise sugar alcohols.