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(54) Title: SOUP POWDER FOR THE PREPARATION OF A SOUP THAT SUPPORTS THE IMMUNE SYSTEM

(57) Abstract: The present invention relates to soup powder. In particular, the present invention relates to soup powder without a meat ingredient, for example vegetarian soup powder. Embodiments of the present invention comprise soup powders enriched with Vitamin B12. More specifically the present invention provide a soup powder, which despite the lack of a meat ingredient is suitable to constitute a soup after reconstitution in water, which when consumed contributes to supporting the immune system.



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SOUP POWDER FOR THE PREPARATION OF A SOUP THAT SUPPORTS THE IMMUNE SYSTEM

[0001] The present invention relates to soup powder. In particular, the present
5 invention relates to soup powder without a meat ingredient, for example
vegetarian soup powder. Embodiments of the present invention comprise
soup powders enriched with Vitamin B12.

[0002] Soup powders are well known in the prior art and are readily available
10 in the market. They are typically sold in portions, wherein the soup powder is
reconstituted with hot water to form a soup prior to eating. Alternatively, cold
water can be added to the soup powder and the mixture subsequently heated.

[0003] Such soup powders are commercially available under various brands.

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[0004] Soups are popular with consumers because they are easy to prepare,
give a comforting warm feeling, and generally do not burden the body
because they are easily digestible and have a high water content.

20 [0005] Many soups are particularly popular in the cold season.

[0006] Also, more and more consumers want to reduce their consumption of
meat and thus completely or partially abstain from eating meat. Vegetarian
soup dishes are ideal in this context.

25

[0007] Moreover, especially during cold times of the year, the number of
diseases that are promoted by a weakened immune system increases.
Dishes that support the immune system may be helpful here.

30 [0008] However, in many foods the longer a product is stored the vitamin
content that can support the immune system decreases.

[0009] It is known that vitamin B12 contributes to a normal functioning immune system. However, vitamin B12 is present primarily in animal products, such as meat, fish and seafood, eggs, and milk products. Therefore, when abstaining from eating meat, and in particular animal products in general, one may develop a vitamin B12 deficiency.

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[0010] It would, therefore, be desirable to have a vegetarian soup powder that is enriched with vitamin B12 and that can be eaten as a soup after reconstitution with hot water.

[0011] The inventors of the present invention have addressed this problem.

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[0012] Any reference in this technical description to prior art is not to be understood to mean that such prior art is generally known to the person skilled in the art or that it is part of the general technical knowledge.

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[0013] The object of the present invention was therefore to improve the prior art and, in particular, to provide a soup powder, which despite the lack of a meat ingredient is suitable to constitute a soup after reconstitution in water, which when consumed contributes to supporting the immune system; or at least to provide a useful alternative.

25

[0014] The inventors were surprised that the object of the invention could be achieved by the subject matter of the independent claim. The subject matter of the dependent claims further develop the present invention.

30

[0015] Accordingly, the present invention provides a soup powder without a meat ingredient, characterized in that it is enriched with vitamin B12 so that after reconstituting the soup powder in water, the soup has a vitamin B12 content of 3.5 - 4 µg/100 ml.

[0016] As used here, the term "comprising" and similar terms are not to be interpreted exclusively, but as "including but not limited to".

5 [0017] The inventors succeeded in showing that it is possible to provide a soup powder that achieves the object according to the invention. In particular, they succeeded in preparing a soup powder that has the required shelf-life, contains no meat ingredient, and is enriched with vitamin B12 so that, after reconstituting in water, it yields a soup that can contribute to supporting the immune system when consumed.

10

[0018] Accordingly, the present invention relates to a soup powder without a meat ingredient, characterized in that it is enriched with vitamin B12 so that after reconstituting the soup powder in water, the soup has a caloric density of 100 - 120 kJ/100 ml and a vitamin B12 content of 3.5 - 4 µg/100 ml.

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[0019] For example, the soup powder without a meat ingredient may be enriched with vitamin B12 in such a way that the soup has a vitamin B12 content of approximately 3.7 µg/100 ml after reconstituting the soup powder in water.

20 [0020] In addition to contributing to a normal function of the immune system, vitamin B12 is also known to have a positive effect on the energy metabolism. Typically, fatigue and exhaustion are reduced by providing the necessary energy. Accordingly, it is important for the soup powder according to the invention to also have the necessary number of calories in addition to vitamin B12.

25

[0021] A soup powder within the meaning of the present invention is any powder that after reconstitution in a liquid, preferably water, constitutes a soup.

30 [0022] Typically, such soup powders are offered for sale in packets, cans or cups. In certain embodiments, it may be preferred to prepare the soup powder as granules, for example in order to increase the pourability of the soup powder. Furthermore, it may also be preferred to compact the soup

powder, and thus, for example, to prepare the soup powder as a compressed tablet. This can facilitate portioning, for example.

5 [0023] The term "enriched" as used herein means that vitamin B12 has been added to the composition so that the total content of vitamin B12 in the composition exceeds that which would result when adding up the vitamin B12 content of the ingredients, such as starch, wheat flour, salt, sugar, vegetable ingredients, potato ingredients, milk protein and/or semi-skimmed milk powder and spices.

10

[0024] Furthermore, the soup powder of the present invention may be characterized by having fat, so that the soup has a fat content of 0.1 - 0.4 g/100 ml after reconstituting the soup powder in water, the fat content containing 0.08 - 0.12 g/100 ml of unsaturated fatty acids.

15

[0025] It is known that saturated and unsaturated fatty acids provide energy, support the immune system, have a positive effect on many further metabolic processes, and moreover have a positive effect on mood. A high amount of unsaturated fatty acids also reduces the risk of contracting coronary heart
20 disease.

25

[0026] Furthermore, the soup powder of the present invention may be characterized by having carbohydrates, so that the soup has a carbohydrate content of 4 - 5 g/100 ml after reconstituting the soup powder in water.

[0027] The human body burns carbohydrates, for example in the form of sugar, flour or starch, thus supplying, for example, organs, the brain and muscles with energy. Carbohydrates are therefore essential to health and wellbeing.

30 [0028] Furthermore, the soup powder of the present invention may be characterized by having dietary fibers, so that the soup has a dietary fiber content of 0.2 - 0.5 g/100 ml after reconstituting the soup powder in water.

[0029] Dietary fibers are completely or partially non-digestible by the human body. They are hydrophilic and thus increase the food volume without increasing the number of calories. Furthermore, they promote laxation, which
5 is further increased by their ability to bind water.

[0030] Moreover, the soup powder of the present invention may be characterized by having proteins, so that the soup has a protein content of 0.8 - 1.5 g/100 ml after reconstituting the soup powder in water.
10

[0031] Proteins are complex natural substances which play an important role in the production of the body's own proteins. Proteins are thus irreplaceable nutrients that are present in vegetable and animal foods.

15 [0032] Soup powders according to the invention can typically be produced by mixing the ingredients together and grinding them, then heating and drying the mixed and ground ingredients until the desired degree of dryness is achieved. Optionally, the mixed, ground, heated, and dried ingredients can then be ground once again until the desired powder grain size is achieved.

20 [0033] A soup powder according to the invention may be characterized in that contains ingredients selected from the group consisting of starch, wheat flour, salt, sugar, vegetable ingredients, spices, and combinations thereof.

25 [0034] In one embodiment, the soup powder according to the invention is characterized in that it contains starch, wheat flour, salt, sugar, vegetable ingredients, and spices.

[0035] For certain embodiments, it may be advantageous if the soup powder
30 of the present invention is further characterized in that it contains milk protein and/or semi-skimmed milk powder.

[0036] The addition of a protein ingredient has a positive effect on the balance of macronutrients. Moreover, the flavor experience can be improved by adding a protein component.

5 [0037] Furthermore, the soup powder of the present invention may be characterized in that it contains potato ingredients. Such potato ingredients may be potato starch or potato flour. Dried, ground potatoes are also conceivable. In one embodiment, the potato ingredients are peeled potatoes.

10 [0038] Potatoes provide not only binding for the soup; they also contain very valuable nutrients that benefit the nutritional balance of the soup.

[0039] The vegetable ingredients are an essential ingredient of the soup powder since they not only contain very valuable nutrients but also contribute
15 significantly to the flavor and texture of the soup. In a preferred embodiment of the invention, the vegetable ingredients are cleaned and ready-to-use vegetables. For example, certain vegetables, such as certain pumpkin varieties, must be peeled and/or pitted prior to use.

20 [0040] For example, the vegetables may be selected from the group consisting of cauliflower, spinach, broccoli, pumpkin, carrots, leek, parsley root, and combinations thereof.

[0041] Another important, flavor-adding ingredient of the soup powder of the
25 present invention are the spices. For example, in the soup powder according to the invention, the spices may be selected from the group consisting of onions, turmeric, nutmeg, garlic, pepper, mustard, parsley, and combinations thereof.

[0042] One embodiment of the present invention is a soup powder for
30 preparing a creamy vegetable soup, characterized in that it contains starch, wheat flour, potatoes, salt, sugar, mustard oil, powdered milk, milk protein,

turmeric, onions, garlic, nutmeg, pepper, parsley, carrots, cauliflower, leek, parsley root and pumpkin.

[0043] A further embodiment of the present invention is a soup powder for preparing a cauliflower and broccoli soup, characterized in that it contains starch, wheat flour, milk protein, semi-skimmed milk powder, salt, cauliflower, spinach, broccoli, onions, turmeric, and nutmeg.

[0044] A further embodiment of the present invention is a soup powder for preparing a creamy vegetable soup, characterized in that it contains 15 - 20 kg of potato starch, 20 - 30 kg of wheat flour, 5 - 10 kg of corn starch, 1 - 2 kg of turmeric, 0.5 - 1.5 kg of onion powder, 0.1 - 0.3 kg of nutmeg, 0.05 - 0.15 kg of white pepper, 0.4 - 0.8 kg of garlic powder, 6 - 7 kg of salt, 5 - 7 kg of sugar, 1 - 2 kg of cauliflower powder, 1 - 2 kg of leek powder, 0.5 - 1.5 kg of parsley root powder, 3 - 4 kg of milk powder, 3 - 4 kg of whey protein powder, 0.5 - 1.5 kg of sunflower oil, 1 - 3 kg of carrots, 0.2 - 0.8 kg of parsley per 100 kg, and added vitamin B12.

[0045] Yet another embodiment of the present invention is a soup powder for preparing a cauliflower and broccoli soup, characterized in that it contains 6 - 8 kg of salt, 4 - 6 kg of sugar, 15 - 19 kg of wheat flour, 12 - 16 kg of corn starch, 1.5 - 2.5 kg of onion powder, 16 - 20 kg of potato starch, 6 - 9 kg of broccoli, 4 - 6 kg of cauliflower, 0.05 - 0.15 kg of nutmeg, 7 - 8 kg of milk powder, 6 - 9 kg of whey protein powder, 0.3 - 0.7 kg of turmeric, 0.5 - 1.5 kg of sunflower oil, 2 - 4 kg of dried spinach per 100 kg, and added vitamin B12.

25

[0046] With the soup powder of the present invention, it is preferred that the water content of the soup powder be as low as possible, since a low water content increases the shelf life of the soup powder.

[0047] Accordingly, it is preferred if the soup powder according to the invention has a water content of not more than 5% by weight, not more than 3.5% by weight, or not more than 2% by weight.

[0048] Accordingly, it is preferred if the packed soup powder according to the invention has a shelf life of at least 12 months, at least 24 months, at least 30 months, or at least 36 months.

5

[0049] In one embodiment of the present invention, the soup powder according to the invention is characterized in that it has a water content of not more than 5% by weight and a shelf life of at least 12 months when packed.

10 [0050] All ingredients of the soup powder of the present invention interact so that, after reconstitution in water, the resulting soup is suitable to support the immune system. Vitamin B12, with which the soup powder according to the invention is enriched and which by itself contributes to a normal function of the immune system, plays an essential role here.

15

[0051] Thus, one embodiment of the present invention is characterized in that the soup powder is intended for use in supporting the immune system.

[0052] The person skilled in the art will understand that they can freely combine
20 all the features of the present invention. Features of different embodiments of the present invention can also be combined with one another.

[0053] While the invention has been exemplified herein, it should be recognized that the object of the invention described may be varied or
25 modified without departing from the scope of the invention, which is defined by the scope of the claims.

[0054] Furthermore, wherever known equivalents to certain features exist, such equivalents are comprised as if explicitly mentioned in this technical description.

30

[0055] Further advantages and features of the present invention result from the non-limiting examples.

Examples:

[0056] The inventors have prepared two prototypes.

5

Prototype I: Soup powder for preparing a creamy vegetable soup

Ingredients per 100 kg:

Potato starch	17.6	KG
Wheat flour	24.6	KG
Corn starch	7.4	KG
Turmeric	1.28	KG
Onion powder	1	KG
Nutmeg	0.2	KG
White pepper	0.1	KG
Garlic powder	0.6	KG
Salt	6.6	KG
Sugar	5.96	KG
Cauliflower powder	1.72	KG
Leek powder	1.54	KG
Parsley root powder	1.03	KG
Milk powder	3.8	KG
Whey protein powder	3.8	KG
Vitamin B12 0.1%	0.1	KG
Sunflower oil	1	KG
Carrot	1.9	KG
Parsley	0.56	KG

10 Prototype II: Soup powder for preparing a cauliflower and broccoli soup

Ingredients per 100 kg:

Salt	7.1	KG
Sugar	5	KG
Wheat flour	16.7	KG
Corn starch	14.41	KG
Onion powder	2.1	KG
Potato starch	18.5	KG
Broccoli	7.35	KG
Cauliflower	4.9	KG
Nutmeg	0.1	KG

Milk powder	7.7	KG
Whey protein powder	8	KG
Turmeric	0.5	KG
Vitamin B12 0.1%	0.1	KG
Sunflower oil	1	KG
Dried spinach	3	KG

[0057] All ingredients were provided for both soup powders. First, the dry powdered ingredients, except for the flour, starch, spices and vitamin B12, are thoroughly mixed. The flour and starch are then added and everything is mixed
5 again. Finally, the remaining ingredients are added and everything is thoroughly mixed once again using a cutter. If the moisture content of the resulting powder is still too high, it can be re-dried accordingly.

[0058] The dry powder was then mixed with cold water and heated for 5
10 minutes before the resulting soups were enjoyed.

Claims

1. Soup powder without a meat ingredient, characterized in that it is enriched with vitamin B12 so that after reconstituting the soup powder in
5 water, the soup has a caloric density of 100 - 120 kJ/100 ml and a vitamin B12 content of 3.5 - 4 µg/100 ml.
2. Soup powder according to claim 1, characterized in that it comprises fat so that the soup has a fat content of 0.1 - 0.4 g/100 ml after reconstituting the
10 soup powder in water, the fat content containing 0.08 - 0.12 g/100 ml of unsaturated fatty acids.
3. Soup powder according to any one of the preceding claims, characterized in that it has carbohydrates, so that the soup has a carbohydrate
15 content of 4 - 5 g/100 ml after reconstituting the soup powder in water.
4. Soup powder according to any one of the preceding claims, characterized in that it has dietary fibers, so that the soup has a dietary fiber
content of 0.2 - 0.5 g/100 ml after reconstituting the soup powder in water.
20
5. Soup powder according to any one of the preceding claims, characterized in that it has proteins, so that the soup has a protein content of 0.8 - 1.5 g/100 ml after reconstituting the soup powder in water.
- 25 6. Soup powder according to any one of the preceding claims, characterized in that it contains starch, wheat flour, salt, sugar, vegetable ingredients, and spices.
7. Soup powder according to any one of the preceding claims,
30 characterized in that it contains milk protein and/or semi-skimmed milk powder.

8. Soup powder according to any one of the preceding claims, characterized in that it contains potato ingredients.

9. Soup powder according to any one of claims 6-8, characterized in that the
5 vegetables are selected from the group consisting of cauliflower, spinach, broccoli, pumpkin, carrots, leek, parsley root, and combinations thereof.

10. Soup powder according to any one of claims 6-9, characterized in that the spices are selected from the group consisting of onions, turmeric,
10 nutmeg, garlic, pepper, mustard, parsley, and combinations thereof.

11. Soup powder according to any one of the preceding claims, characterized in that it has a water content of not more than 5% by weight and a shelf life of at least 12 months when packed.

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12. Soup powder according to any one of the preceding claims, characterized in that it is intended for use in supporting the immune system.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER INV. A23L23/10 A23L33/15 ADD. 		
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B. FIELDS SEARCHED		
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE GNPD [Online] MINTEL; 27 February 2017 (2017-02-27), anonymous: "Vegetable Flavoured Soup", XP055910262, Database accession no. 4649433 abstract -----	1-12
X	DATABASE GNPD [Online] MINTEL; 3 June 2020 (2020-06-03), anonymous: "Vegetable Flavoured Diet Soup", XP055909940, Database accession no. 7666243 abstract ----- -/--	1-12
☒ Further documents are listed in the continuation of Box C. ☒ See patent family annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance;; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance;; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE GNPD [Online] MINTEL; 19 December 2006 (2006-12-19), anonymous: "Soup Range Extension", XP055909974, Database accession no. 633374 abstract -----	1-12
X	DATABASE GNPD [Online] MINTEL; 18 June 2020 (2020-06-18), anonymous: "Vegetable Soup", XP055909936, Database accession no. 7887145 abstract -----	1-12
X	US 6 036 984 A (SARTORIO CLAUDE [US] ET AL) 14 March 2000 (2000-03-14) example 3 -----	1-12
X	GB 2 380 656 A (BRAND PARTNERSHIP LTD [GB]) 16 April 2003 (2003-04-16) example 1 -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

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PCT/EP2022/052200

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6036984	A	14-03-2000	AT 215320 T	15-04-2002
			AU 5072196 A	12-12-1996
			CA 2173780 A1	02-12-1996
			DE 69620291 T2	14-11-2002
			EP 0745333 A1	04-12-1996
			ES 2175023 T3	16-11-2002
			JP H08322509 A	10-12-1996
			US 6036984 A	14-03-2000

GB 2380656	A	16-04-2003	NONE	
