



CARICOM Regional Standard

Fat Products – margarine, Cooking margarine, spreads and blended spreads

DCRS 65: 201X

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Contents

Page

Foreword	viii
Introduction.....	Error! Bookmark not defined.
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Essential composition and quality factors	3
4.1 Composition	3
4.1.1 Fat spreads	3
4.1.2 Blended spreads	4
4.2 Permitted ingredients	4
5 Food additives	4
5.1 Additive functional classes	4
5.2 Acidity regulators	5
5.3 Antifoaming agents	5
5.4 Antioxidants	5
5.5 Antioxidants synergists	6
5.6 Colours	6
5.7 Emulsifiers	7
5.8 Flavours	7
5.9 Preservatives	7
5.10 Stabilizers and thickeners	7
6 Contaminants	8
6.1 Heavy metals	8
6.2 Pesticide residues	8
7 Hygiene	8
8 Quality characteristics	8
9 Labelling	8
9.1 Name of the food	8
9.2 Labelling of non-retail containers	9
9.3 Declaration of fat content	9
9.4 Declaration of salt content	9
10 Methods of analysis and sampling	9
10.1 Determination of lead	9
10.2 Determination of arsenic	9
10.3 Determination of fat content	9
10.4 Determination of milk fat content (Butyric acid)	9
10.5 Determination of salt content	9
10.6 Determination of vitamin A content	10
10.7 Determination of vitamin D content	10
10.8 Determination of vitamin E content	10

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Foreword

This standard has been prepared through the CARICOM Regional Organisation for Standards and Quality (CROSQ) to set a level of quality for margarine and other spreadable fat products manufactured and traded within the CARICOM Region.

It replaces the Mandatory Caribbean Community Standard – Specification for Margarine and Cooking Margarine (CCS0014) accepted by the CCMSC in October 1991 and approved by the Council of Ministers in February 1992.

Margarine, Cooking Margarine and Spreads that conform to this standard and are manufactured under an approved system of quality assurance can qualify to use the CARICOM Standard Mark.

This standard is based on the Barbados Standard BNS 18:1975 (which closely follows the FAO/WHO Standard CODEX STAN 31-1981) and the CODEX STAN 256- 2007 – Standard of Fat Spreads and Blended Spreads. The requirements for cooking margarine are derived from the Food and Drugs Regulations, Ch. 30:01 of the Laws of Trinidad and Tobago, 1980.

Fat Products – margarine, cooking margarine, spreads and blended spreads

1 Scope

This standard prescribes requirements for margarine, cooking margarine, fat spreads and blended spreads containing not less than 10 % and not more than 90 % fat, intended primarily for use as spreads, to be sold in the CARICOM Community, and includes methods of sampling and test. However, this Standard does not apply to fat products derived exclusively from milk and or milk products to which only other substances necessary for their manufacture have been added.

It only includes margarine and products used for similar purposes and exclude products with a fat content of less than 2/3 of the dry matter (excluding salt). Butter and dairy spreads are not covered by this Standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Barbados Standard BNS 18: 1975 - Specification for Margarine

Trinidad and Tobago Food and Drugs Regulations, Ch 30:01 – 1980 - Requirements for Cooking Margarine

CODEX STAN 256 – 2007 - Standard for Fat Spreads and Blended Spreads

CODEX STAN 192 – 1995 – General Standard for Food Additives – Adopted 1995 Rev.2017

CCS 14: 1992 – CARIBBEAN COMMUNITY Standard for Margarine and Cooking Margarine

USDA Specification for Vegetable Oil Margarine (Effective August 28, 1996)

3 Terms and definitions

For the purposes of this specification, the following terms and definitions shall apply.

3.1

animal fat

means any fat of animal origin, excluding milk fat and marine fat;

3.2

blend

a spreadable product obtained from a mixture of vegetable and/or animal fats with a fat content of not less than 80 percent but no more than 90 percent.

3.3

Blended spread x%

a spreadable product obtained from mixture of vegetable and/or animal fats with the following fat contents:

- Less than 40 percent;
- More than 40 percent but less than 60 percent;
- More than 60 percent but less than 80 percent.

3.4

Edible fats and oils

“Edible fats and oils” means foodstuffs composed of glycerides of fatty acids. They are of vegetable or animal (including milk) or marine origin. They may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in fat or oil. Fats of animal origin must, if originating from slaughtered animals, be obtained from animals in good health at the time of slaughter and fit for human consumption as determined by a competent authority recognised in national legislation. Fats and oils that have been subjected to processes of physical or chemical modification including fractionation, inter-esterification or hydrogenation are included.

3.5

Fat free dry matter

Means the remainder of a fat spread after the moisture and the fat has been removed.

3.6

Fat spread

means a product in the form of a water-in-oil emulsion of an aqueous phase and a fat phase of edible oils and fats excluding animal body fats. It may be a ‘milk-fat’ spread (fat content, exclusively milk fat), ‘mixed-fat’ spread (based on a mixture of milk fat and one or more of hydrogenated or un-hydrogenated refined edible vegetable oils or inter-esterified fat), or a ‘vegetable fat’ spread.

3.7

Fats spreads and blended spreads

The products covered by this Standard are foods that are plastic or fluid emulsions, principally of water and edible fats and oils.

3.8

Flavour

Means a complex sensation derived from the blending of smell and taste;

3.9

Food additive

any substance, the use of which results, or can reasonably be expected to result in it, or its by-products becoming a part of, or affecting the characteristics of a food.

3.10

Half-fat blend

a spreadable product obtained from a mixture of vegetable and/or animal fats with a fat content of not less 39 percent but no more than 41 percent.

3.11

Half-fat margarine/light margarine/low-fat margarine

a spreadable product obtained from vegetable and/or animal fats with a fat content of not less 39 percent but no more than 41 percent fat.

3.12

Hydrogenation

process whereby liquid vegetable oils are converted into solid or semisolid fats.

3.13

Inter-esterification

the modification of the physical properties of oil by an interchange of fatty acids between and inside the different triglycerides by means of a catalyst and under vacuum; changing the overall melting profile, plasticity and combine the properties of mixed oils and fats;

3.14

Margarine

shall be the plastic food prepared principally from edible fats and oils such as rendered fat or oil stearin and any vegetable oils or fats or a combination of both. The optional fats maybe hydrogenated. It resembles butter in consistency, appearance and flavour.

3.15

Marine fat

means fat obtained from marine animals;

3.16

Milk fat

means fat obtained from the milk of bovines, sheep or goats;

3.17

Pre-packed

Packed or made up in advance, ready for retail sale in a container.

3.18

Sampling

Process of twing or selecting containers or sample units from a Lot, batch or production for the purpose of estimating the quality of the lot under consideration.

3.19

Three-quarter-fat blend/reduced fat blend

a spreadable product obtained from a mixture of vegetable and/or animal fats with a fat content of not less 60 percent but no more than 62 percent.

3.20

Three-quarter fat margarine/reduced fat margarine

a spreadable product obtained from vegetable and/or animal fats with a fat content of not less 60 percent but no more than 62 percent.

3.21

Vegetable fat

Means fat or oil that is obtained from vegetable matter;

4 Essential composition and quality factors

4.1 Composition

4.1.1 Fat spreads

4.1.1.1 The fat content shall be as follows:

- a) Margarine shall contain not less than 80% by mass (weight) of fat, and not more than 29% of moisture.
- b) Fat spreads shall contain less than 80% by mass (weight) of fat, for these products, any milk fat content shall be no more than 3% of the total fat content.

- c) Cooking margarine shall contain not less than 80% by mass (weight) of fat and not more than 12% by mass (weight) of salt.

NOTE The term "margarine" may, in some cases, be used in the name of the food as provided for in section 9.1.1.

4.1.2 Blended spreads

4.1.2.1 These are blended spreads in which milk fat is more than 3% of the total fat content. However a higher minimum percentage of milk fat may be specified in accordance with the requirements of the country of the retail sale.

4.1.2.2 The fat content shall be as follows:

- a) Blends $\geq 80\%$
- b) Blended fat spreads $\geq 80\%$

4.2 Permitted ingredients

4.2.1 The following substances may be added:

- a) Vitamins:
 - 1) Vitamin A and its esters in quantities not less than 26 805 International Units per kilogram, and not greater than 33 154 International Units per kilogram, the Vitamin A content (i.e. beta-carotene) content in carotenoids being considered.
 - 2) Vitamin D, in quantities not less than 2 822 International Units per kilogram, and not greater than 3 527 International Units per kilogram.
 - 3) Vitamin E and its esters.
 - 4) Other vitamins.

4.2.1.1 Maximum and minimum levels for vitamins A, D and E should be laid down by national legislation in accordance with the needs of each individual country including, where appropriate, the prohibition of the use of particular vitamins and guided by good manufacturing practices and Codex.

- a) Sodium Chloride (Food grade) in accordance with good manufacturing practices;
- b) Sugars (any carbohydrate sweetening matter) in accordance with good manufacturing practices;
- c) Suitable edible proteins in accordance with good manufacturing practices;

4.2.2 Use of other ingredients, including minerals, may be permitted in national legislation.

5 Food additives

Only those food additive classes listed below are technologically justified and may be used in products covered by this Standard. Within each additive class only those food additives listed below, or referred to, may be used and only for the functions, and within the limits, specified.

5.1 Additive functional classes

- a) Acidity regulators
- b) Antifoaming agents

- c) Antioxidants
- d) Colours
- e) Emulsifiers
- f) Flavour enhancers
- g) Packing gases
- h) Preservatives
- i) Stabilizers
- j) Thickeners

5.1.1 Acidity regulators, antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, packing gases, preservatives, stabilizers and thickeners used in accordance with Table 3 of the Codex General Standards for Food Additives are acceptable for use in foods conforming to this standard.

5.2 Acidity regulators

INS No.	Additive	Maximum use level
262 (ii)	Sodium diacetate	1,000 mg/kg
334; 335(i), (ii); 336(i), (ii); 337	Tartrates	100 mg/kg (as tartaric acid)
338; 339(i), (ii), (iii); 340(i), (ii), (iii); 341(i), (ii), (iii); 342(i), (ii); 343(i), (ii), (iii); 450(i), (ii), (iii), (v), (vi); (vii), 451(i), (ii); 452(i), (ii), (iii), (iv), (v); 542	Phosphates	1,000 mg/kg (as Phosphorus)

5.3 Antifoaming agents

INS No.	Additive	Maximum use level
900a	Polydimethylsiloxane	10 mg/kg (frying purposes only)

5.4 Antioxidants

INS No.	Additive	Maximum use level
304,305	Ascorbyl esters	500 mg/kg (as ascorbyl stearate)
307a	Tocopherol, d- <i>alpha</i> -	500 mg/kg (singly or in combination)
307b	Tocopherol concentrate, mixed	

307c	Tocopherol, dl- <i>alpha</i> -	
311, 312	Octyl and dodecyl gallate	100 mg/kg
310	Propyl gallate	200 mg/kg (fat or oil basis) Singly or in combination.
319	Tertiary butylhydroquinone	
320	Butylated hydroxyanisole	
321	Butylated hydroxytoluene	
384	Isopropyl citrates	100 mg/kg
385, 386	EDTAs	100 mg/kg (as anhydrous calcium disodium EDTA)
388, 389	Thiodipropionates	200 mg/kg (as thiodipropionic acid)

5.5 Antioxidants synergists

INS No.	Additive	Maximum use level
384	Isopropyl citrate mixture	100 mg/kg (on fat content)

5.6 Colours

INS No.	Additive	Maximum use level
100(i)	Curcumin	10 mg/kg
101(i), (ii)	Riboflavins	300 mg/kg
120	Carmines	500 mg/kg
150b	Caramel II - caustic sulfite process	500 mg/kg
150c	Caramel III - ammonia process	500 mg/kg
150d	Caramel IV - sulfite ammonia process	500 mg/kg
160a(ii)	<i>beta</i> -Carotenes, (vegetable)	1000 mg/kg 35 mg/kg singly or in combination
160a(i)	<i>beta</i> -Carotenes (synthetic)	
160a(iii)	<i>beta</i> -Carotenes (<i>Blakeslea trispora</i>)	
160e	<i>beta</i> -apo-8'-Carotenal	
160f	<i>beta</i> -apo-8'-Carotenoic acid, methyl or ethyl ester	
160b(i)	Annatto extracts, bixin-based	100/kg (as bixin)
161 (g)	Canthaxanthin	In accordance with good manufacturing practices

5.7 Emulsifiers

INS No.	Additive	Maximum use level
432, 433, 434, 435, 436	Polysorbates	10,000 mg/kg (singly or in combination)
472e	Diacetyltartaric and fatty acid esters of glycerol	10,000 mg/kg
473	Sucrose esters of fatty acids	10,000 mg/kg
474	Sucroglycerides	10,000 mg/kg
475	Polyglycerol esters of fatty acids	5,000 mg/kg
476	Polyglycerol esters of interesterified ricinoleic acid	4,000 mg/kg
477	Propylene glycol esters of fatty acids	20,000 mg/kg
479	Thermally oxidized soya bean oil interacted with mono- and diglycerides of fatty acids)	5,000 mg/kg (in fat emulsions for frying or baking purpose, only).
481(i), 482(i)	Stearoyl-2-lactylates	10,000 mg/kg (singly or in combination)
484	Stearyl citrate	100 mg/kg (fat or oil basis)
491, 492, 493, 494, 495	Sorbitan esters of fatty acids	10,000 mg/kg (singly or in combination)
322	Lecithin and components of commercial lecithin	2000 mg/kg

5.8 Flavours

- 1) Natural flavouring substances and artificial flavouring substances except those which are known to represent a toxic hazard, shall be utilized in accordance with good manufacturing practices.
- 2) Butyric acid, or other synthetic flavours which are deemed for human consumption, shall be utilized in accordance with good manufacturing practices.

5.9 Preservatives

INS No.	Additive	Maximum use level
200, 201, 202, 203	Sorbates	2,000 mg/kg (singly or in combination (as sorbic acid))
210, 211, 212, 213	Benzoates	1,000 mg/kg (singly or in combination (as benzoic acid))
If used in combination, the combined use shall not exceed 2000 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg.		

5.10 Stabilizers and thickeners

INS No.	Additive	Maximum use level
405	Propylene glycol alginate	3,000 mg/kg

6 Contaminants

6.1 Heavy metals

The products covered by the provisions of this Specification shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

	Maximum permissible concentration
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg
Iron (Fe) (unless milk products are added)	1.5 mg/ kg
Copper (Cu)	0.1 mg/kg

6.2 Pesticide residues

The products covered by the provisions of this Specification shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

7 Hygiene

7.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969 Amended 1999. Revision 2003. Editorial corrections 2011), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

7.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

8 Quality characteristics

It is recommended that all fat products be produced under an appropriate quality assurance system.

8.1 The odour and taste shall be characteristic of the product, and free from foreign odours and tastes.

8.2 The colour shall be characteristic of the product.

8.3 Texture – there shall be no signs of streaking, lumps of hard margarine, or oil separation (leaking due to poor plastic structure).

9 Labelling

The product shall be labelled in accordance with the CARICOM Regional Specification for the Labelling of Pre-packaged Foods (CRS 5), Codex Guidelines on the Use of Nutrition Claims (CAC/GL 23-1997 Revised 2004. Amended 2001..., 2012 and 2013. Annex adopted 2009) and other relevant food labelling guidelines as determined by the national regulations of the importing member state. The product designations should be translated into other languages in a meaningful way and not strictly word by word.

9.1 Name of the food

The name of the food to be declared on the label shall be as specified in Sections 4.1.1 and 4.1.2.

9.1.1 In accordance with requirements acceptable in the country of retail sale, fat spreads defined in section 3.1.1.2 with a fat content of less than 80% may incorporate the term "margarine" in the name of the food, provided that the term is qualified to make clear the lower fat content. Fat spreads with a fat content of 39 to 41% may be designated as "Low fat Spreads", "Light Margarine", "Minarine" or "Halvarine".

9.1.2 For item 4.1, the name of the product may incorporate the name of the fats and oils in a generic or specific manner.

9.2 Labelling of non-retail containers

9.2.1 Information on the above labelling requirements shall be given either on the container or in accompanying documents, except that the name of the food, lot identification and the name and address of the manufacturer or packer shall appear on the container.

9.2.2 However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9.3 Declaration of fat content

9.3.1 The product shall be labelled to indicate fat content in a manner found acceptable in the country of sale.

9.3.2 The milk fat content, when present shall be indicated in a manner that is clear and not misleading to the consumer.

9.3.3 Where animal fats are used as ingredients, a declaration in the form "Contains Animal Fats" shall be placed in close proximity to the brand name.

9.4 Declaration of salt content

9.4.1 The product should be labelled to indicate salt content in a manner found acceptable in the country of retail sale, if required.

10 Methods of analysis and sampling

10.1 Determination of lead

According to AOAC 994.02; or ISO 12193: 1994; or AOCS Ca 18c-91 (97).

10.2 Determination of arsenic

According to AOAC 952.13; AOAC 942.17; or AOAC 985.16.

10.3 Determination of fat content

According to ISO 17189 | IDF 194: 2003.

10.4 Determination of milk fat content (Butyric acid)

According to AOAC 990.27; or AOCS Ca 5c-87 (97).

10.5 Determination of salt content

According to IDF 12B: 1988, ISO CD 1738 or AOAC 960.29.

10.6 Determination of vitamin A content

According to AOAC 985.30; AOAC 992.04; or JAOAC 1980, 63, 4.

10.7 Determination of vitamin D content

According to AOAC 981.17.

10.8 Determination of vitamin E content

According to ISO 9936: 1997.

DCRS 65 For Comments - March 14 - May 18, 2018