

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

E-mail: codex@fao.org - www.codexalimentarius.org

STANDARD FOR FAT SPREADS AND BLENDED SPREADS

CXS 256-2007

Adopted in 1999. Revised in 2007, 2009. Amended in 2017, 2019.

1. SCOPE

This Standard applies to fat products, containing not less than 10% and not more than 90% fat, intended primarily for use as spreads. However, this Standard does not apply to fat spreads 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 excludes 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. DESCRIPTION

2.1 Fat 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.

2.2 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. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

3.1.1 Fat Spreads

3.1.1.1 For these products, any milk fat content must be no more than 3% of the total fat content.

3.1.1.2 The fat content shall be as follows:

| | | |
|-----|--------------------------|-------|
| (a) | Margarine | ≥ 80% |
| (b) | Fat spreads ¹ | < 80% |

3.1.2 Blended Spreads

3.1.2.1 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.

3.1.2.2 *The fat content shall be as follows:*

| | | |
|-----|--------------------|-------|
| (a) | Blends | ≥ 80% |
| (b) | Blended fat spread | < 80% |

3.2 Permitted Ingredients

3.2.1 The following substances may be added:

Vitamins: Vitamin A and its esters
Vitamin D
Vitamin E and its esters

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.

Sodium Chloride

Sugars (any carbohydrate sweetening matter)

Suitable edible proteins

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

¹ The term "margarine" may, in some cases, be used in the name of the food as provided for in section 7.1.1.

4. 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.

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

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 Standard for Food Additives are acceptable for use in foods conforming to this Standard.

4.1 Acidity Regulators

| INS No. | Additive | Maximum Use Level |
|---|------------------|------------------------------|
| 262(ii) | Sodium diacetate | 1,000 mg/kg |
| 334; 335(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) |

4.2 Antifoaming Agents

| INS No. | Additive | Maximum Use Level |
|---------|----------------------|----------------------------------|
| 900a | Polydimethylsiloxane | 10 mg/kg (frying purposes, only) |

4.3 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> | |
| 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) |

4.4 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 |

| INS No. | Additive | Maximum Use Level |
|-----------|--|-----------------------------------|
| 150d | Caramel IV - sulfite ammonia process | 500 mg/kg |
| 160a(ii) | <i>beta</i> -Carotenes, (vegetable) | 1000 mg/kg |
| 160a(i) | <i>beta</i> -Carotenes (synthetic) | 35 mg/kg singly or in combination |
| 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 mg/kg (as bixin) |

4.5 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) |

4.6 Flavouring

The flavourings used in products covered by this standard shall comply with the *Guidelines for the Use of Flavourings* (CXG 66-2008).

4.7 Preservatives

| INS No. | Additive | Maximum Use Level |
|---|-----------|--|
| 200, 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. | | |

4.8 Stabilizers and Thickeners

| INS No. | Additive | Maximum Use Level |
|---------|---------------------------|-------------------|
| 405 | Propylene glycol alginate | 3,000 mg/kg |

5. CONTAMINANTS

5.1 Heavy metals

The products covered by the provisions of this Standard 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 |

5.2 Pesticide residues

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

6. HYGIENE

- 6.1** 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 *General Principles of Food Hygiene* (CXC 1-1969), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.
- 6.2** The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CXG 21-1997).

7. LABELLING

The product shall be labelled in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985), *Guidelines for Use of Nutrition and Health Claims* (CXG 23-1997) and other relevant food labelling guidelines. The product designations should be translated into other languages in a meaningful way and not strictly word by word.

7.1 Name of the Food

The name of the food to be declared on the label shall be as specified in Sections 3.1.1 and 3.1.2.

- 7.1.1** 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 “Minarine” or “Halvarine”.
- 7.1.2** For item 3.1, the name of the product may incorporate the name of the fats and oils in a generic or specific manner.

7.2 Labelling of Non-Retail Containers

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.

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.

7.3 Declaration of Fat Content

- 7.3.1** The product shall be labelled to indicate fat content in a manner found acceptable in the country of sale.
- 7.3.2** The milk fat content, when present shall be indicated in a manner that is clear and not misleading to the consumer.

7.4 Declaration of Salt Content

- 7.4.1** The product should be labelled to indicate salt content in a manner found acceptable in the country of retail sale.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Determination of lead

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

8.2 Determination of arsenic

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

8.3 Determination of fat content

According to ISO 17189 | IDF 194: 2003.

8.4 Determination of milk fat content (Butyric acid)

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

8.5 Determination of salt content

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

8.6 Determination of vitamin A content

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

8.7 Determination of vitamin D content

According to AOAC 981.17.

8.8 Determination of vitamin E content

According to ISO 9936: 1997.