

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



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## STANDARD FOR DAIRY FAT SPREADS

CXS 253-2006

Adopted in 2006. Amended in 2008, 2010, 2018.

## 1. SCOPE

This Standard applies to dairy fat spreads intended for use as spreads for direct consumption, or for further processing, in conformity with Section 2 of this Standard.

## 2. DESCRIPTION

Dairy fat spreads are milk products relatively rich in fat in the form of a spreadable emulsion principally of the type of water-in-milk fat that remains in solid phase at a temperature of 20° C.

## 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 3.1 Raw materials

- Milk and/or products obtained from milk.

Raw materials, including milk fat, may have been subjected to any appropriate processing (e.g. physical modifications including fractionation) prior to its use.

### 3.2 Permitted ingredients

The following substances may be added:

- Flavours and flavourings;
- Safe and suitable processing aids;
- Where allowed in accordance with the *General Principles for the Addition of Essential Nutrients to Food* (CXG 9-1987), maximum and minimum levels for vitamins A, D and other nutrients, where appropriate, should be laid down by national legislation in accordance with the needs of individual countries including, where appropriate, the prohibition of the use of particular nutrients;
- Sodium chloride and potassium chloride as a salt substitute;
- Sugars (any carbohydrate sweetening matter);
- Inulin and malto-dextrins (limited by GMP);
- Starter cultures of harmless lactic acid and/or flavour producing bacteria;
- Water;
- Gelatine and Starches (limited by GMP). These substances can be used in the same function as thickeners, provided they are added only in amounts functionally necessary as governed by GMP taking into account any use of the thickeners listed in Section 4.

### 3.3 Composition

The milk fat content shall be no less than 10% and less than 80% (m/m) and shall represent at least 2/3 of the dry matter.

Compositional modifications of Dairy Fat Spreads are restricted by the requirements of Section 4.3.3 of the *General Standard for the Use of Dairy Terms* (CXS 206-1999).

#### 4. FOOD ADDITIVES

Only those additive functional classes indicated as technologically justified in the table below may be used for the product categories specified. Within each additive class, and where permitted according to the table, only those food additives listed below the table may be used and only within the functions and limits specified.

Additive functional class	Justified use in dairy fat spreads:	
	< 70% milk fat content <sup>(a)</sup>	≥ 70% milk fat content
Acidity regulators	X	X
Anticaking agents	–	–
Antifoaming agents	X	X
Antioxidants	X	X
Bleaching agents	–	–
Bulking agents	–	–
Carbonating agents	–	–
Colours	X	X
Colour retention agents	–	–
Emulsifiers	X	–
Firming agents	–	–
Flavour enhancers	X	–
Foaming agents	–	–
Gelling agents	–	–
Humectants	–	–
Preservatives	X	X
Propellants	X	X
Raising agents	–	–
Sequestrants	–	–
Stabilizers	X	–
Thickeners	X	–

<sup>(a)</sup> The application of GMP in the use of emulsifiers, stabilizers, thickeners and flavour enhancers includes consideration of the fact that the amount required to obtain the technological function in the product decreases with increasing fat content, fading out at fat content about 70%.

INS no.	Name of additive	Maximum level
<b>Colours</b>		
100(i)	Curcumin	5 mg/kg
160a(i)	Carotene, <i>beta</i> -,synthetic	35 mg/kg, singly or in combination
160a(ii)	Carotene, <i>beta</i> -, <i>Blakeslea trispora</i>	
160e	Carotenal, <i>beta</i> -apo-8'-	
160f	Carotenoic acid, ethyl ester <i>beta</i> -apo-8'-	
160b(i)	Annatto extracts– bixin based	20 mg/kg
<b>Emulsifiers</b>		
432	Polyoxyethylene (20) sorbitan monolaurate	10 000 mg/kg, singly or in combination (Dairy fat spreads for baking purposes only)
433	Polyoxyethylene (20) sorbitan monooleate	
434	Polyoxyethylene (20) sorbitan monopalmitate	
435	Polyoxyethylene (20) sorbitan monostearate	
436	Polyoxyethylene (20) sorbitan tristearate	
471	Mono and diglycerides of fatty acids	Limited by GMP
472a	Acetic and fatty acid esters of glycerol	Limited by GMP
472b	Lactic and fatty acid esters of glycerol	Limited by GMP
472c	Citric and fatty acid esters of glycerol	Limited by GMP
472e	Diacetyltartaric and fatty acid esters of glycerol	10 000 mg/kg
473	Sucrose esters of fatty acids	10 000 mg/kg, dairy fat spreads for baking purposes only
474	Sucroglycerides	10 000 mg/kg, dairy fat spreads for baking purposes only
475	Polyglycerol esters of fatty acids	5 000 mg/kg
476	Polyglycerol esters of interesterified ricinoleic acid	4 000 mg/kg
481(i)	Sodium stearoyl lactylate	10 000 mg/kg, singly or in combination
482(i)	Calcium stearoyl lactylate	
491	Sorbitan monostearate	10 000 mg/kg, singly or in combination
492	Sorbitan tristearate	
493	Sorbitan monolaurate	
494	Sorbitan monooleate	
495	Sorbitan monopalmitate	

INS no.	Name of additive	Maximum level
<b>Preservatives</b>		
200	Sorbic acid	2 000 mg/kg, singly or in combination (as sorbic acid) for fat contents < 59% and 1 000 mg/kg singly or in combination (as sorbic acid) for fat contents ≥ 59%
202	Potassium sorbate	
203	Calcium sorbate	
<b>Stabilizers/thickeners</b>		
340(i)	Potassium dihydrogen phosphate	880 mg/kg, singly or in combination, as phosphorous
340(ii)	Dipotassium hydrogen phosphate	
340(iii)	Tripotassium phosphate	
341(i)	Calcium dihydrogen phosphate	
341(ii)	Calcium hydrogen phosphate	
341(iii)	Tricalcium phosphate	
450(i)	Disodium diphosphate	
400	Alginic acid	Limited by GMP
401	Sodium alginate	Limited by GMP
402	Potassium alginate	Limited by GMP
403	Ammonium alginate	Limited by GMP
404	Calcium alginate	Limited by GMP
406	Agar	Limited by GMP
405	Propylene glycol alginate	3 000 mg/kg
407	Carrageenan	Limited by GMP
407a	Processed eucheuma seaweed (PES)	Limited by GMP
410	Carob bean gum	Limited by GMP
412	Guar gum	Limited by GMP
413	Tragacanth gum	Limited by GMP
414	Gum arabic (acacia gum)	Limited by GMP
415	Xanthan gum	Limited by GMP
418	Gellan gum	Limited by GMP
422	Glycerol	Limited by GMP
440	Pectins	Limited by GMP
460(i)	Microcrystalline cellulose (Cellulose gel)	Limited by GMP
460(ii)	Powdered cellulose	Limited by GMP
461	Methyl cellulose	Limited by GMP
463	Hydroxypropyl cellulose	Limited by GMP
464	Hydroxypropyl methyl cellulose	Limited by GMP
465	Methyl ethyl cellulose	Limited by GMP
466	Sodium carboxymethyl cellulose (Cellulose gum)	Limited by GMP

<b>INS no.</b>	<b>Name of additive</b>	<b>Maximum level</b>
500(i)	Sodium carbonate	Limited by GMP
500(ii)	Sodium hydrogen carbonate	Limited by GMP
500(iii)	Sodium sesquicarbonate	Limited by GMP
1400	Dextrin, roasted starch	Limited by GMP
1401	Acid-treated starch	Limited by GMP
1402	Alkaline-treated starch	Limited by GMP
1403	Bleached starch	Limited by GMP
1404	Oxidized starch	Limited by GMP
1405	Starches, enzyme treated	Limited by GMP
1410	Monostarch phosphate	Limited by GMP
1412	Distarch phosphate	Limited by GMP
1413	Phosphated distarch phosphate	Limited by GMP
1414	Acetylated distarch phosphate	Limited by GMP
1420	Starch acetate esterified with acetic anhydride	Limited by GMP
1422	Acetylated distarch adipate	Limited by GMP
1440	Hydroxypropyl starch	Limited by GMP
1442	Hydroxypropyl distarch phosphate	Limited by GMP
<b>Acidity regulators</b>		
325	Sodium lactate	Limited by GMP
326	Potassium lactate	Limited by GMP
327	Calcium lactate	Limited by GMP
329	Magnesium lactate, DL-	Limited by GMP
331(i)	Sodium dihydrogen citrate	Limited by GMP
331(ii)	Disodium monohydrogen citrate	Limited by GMP
334	Tartaric acid, L(+)-	5 000 mg/kg, singly or in combination as tartaric acid
335 (ii)	Disodium tartrate	
337	Potassium sodium (L+)-tartrate	
339 (i)	Sodium dihydrogen phosphate	880 mg/kg, singly or in combination as phosphorous
339 (ii)	Sodium hydrogen phosphate	
339 (iii)	Trisodium phosphate	
338	Phosphoric acid	
524	Sodium hydroxide	Limited by GMP
526	Calcium hydroxide	Limited by GMP
<b>Antioxidants</b>		
304	Ascorbyl palmitate	500 mg/kg, as ascorbyl stearate
305	Ascorbyl stearate	
307	Tocopherols	500 mg/kg

<b>INS no.</b>	<b>Name of additive</b>	<b>Maximum level</b>
310	Propyl gallate	200 mg/kg, singly or in combination: butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), and propyl gallate (INS 310) as a combined maximum level of 200 mg/kg on a fat or oil basis. May be used only in dairy fat spreads intended for cooking purposes.
320	Butylated hydroxyanisole	200 mg/kg, singly or in combination: butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), and propyl gallate (INS 310) as a combined maximum level of 200 mg/kg on a fat or oil basis. May be used only in dairy fat spreads intended for cooking purposes.
321	Butylated hydroxytoluene	75 mg/kg, singly or in combination: butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), and propyl gallate (INS 310) as a combined maximum level of 200 mg/kg on a fat or oil basis. May be used only in dairy fat spreads intended for cooking purposes.
<b>Anti-foaming agents</b>		
900a	Polydimethylsiloxane	10 mg/kg in dairy fat spreads for frying purposes, only
<b>Flavour enhancers</b>		
627	Disodium 5'-guanylate	Limited by GMP
628	Dipotassium 5'-guanylate	Limited by GMP

## 5. CONTAMINANTS

The products covered by this Standard shall comply with the Maximum Levels for contaminants that are specified for the product in the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

The milk used in the manufacture of the products covered by this Standard shall comply with the Maximum Levels for contaminants and toxins specified for milk by the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995) and with the maximum residue limits for veterinary drug residues and pesticides established for milk by the CAC.

## 6. HYGIENE

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), the *Code of Hygienic Practice for Milk and Milk Products* (CXC 57-2004) and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice. The products should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).

## 7. LABELLING

In addition to the provisions of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) and the *General Standard for the Use of Dairy Terms* (CXS 206-1999), the following specific provisions apply:

### 7.1 Name of the food

- 7.1.1 The name of the food shall be "Dairy Fat Spread". Other names may be used if allowed by national legislation in the country of retail sale.
- 7.1.2 Dairy fat spreads with reduced fat content may be labelled as "reduced fat" in line with the *Guidelines for Use of Nutrition and Health Claims* (CXG 23-1997).
- 7.1.3 The designations and any qualifying terms should be translated into other languages in a non-misleading way and not necessarily word for word and should be acceptable in the country of retail sale.
- 7.1.4 Dairy fat spread may be labelled to indicate whether it is salted or unsalted according to national legislation.
- 7.1.5 Dairy fat spreads that have been sweetened shall be labelled to indicate that they have been sweetened.

### 7.2 Declaration of fat content

The milk fat content shall be declared in a manner found acceptable in the country of retail sale, either (i) as a percentage by mass, or (ii) in grams per serving as quantified in the label provided that the number of servings is stated.

### 7.3 Labelling of non-retail containers

Information required in Section 7 of this Standard and Sections 4.1 to 4.8 of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, 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 on the accompanying documents.

## 8. METHODS OF SAMPLING AND ANALYSIS

For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999) relevant to the provisions in this standard, shall be used.