

C O D E X A L I M E N T A R I U S

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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

**STANDARD FOR A BLEND OF SKIMMED MILK AND VEGETABLE FAT
IN POWDERED FORM**

CXS 251-2006

Adopted in 2006. Amended in 2010, 2013, 2014, 2016, 2018.

1. SCOPE

This Standard applies to a blend of skimmed milk and vegetable fat in powdered form, intended for direct consumption, or further processing, in conformity with the description in Section 2 of this Standard.

2. DESCRIPTION

A blend of skimmed milk and vegetable fat in powdered form is a product prepared by the partial removal of water from milk constituents with the addition of edible vegetable oil, edible vegetable fat or a mixture thereof, to meet the compositional requirements in Section 3 of this Standard.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw materials

Skimmed milk and skimmed milk powders¹, other non-fat milk solids, and edible vegetable oils/ fats.¹

The following milk products are allowed for protein adjustment purposes:

- Milk retentate: Milk retentate is the product obtained by concentrating milk protein by ultrafiltration of milk, partly skimmed milk, or skimmed milk;
- Milk permeate: Milk permeate is the product obtained by removing milk proteins and milk fat from milk, partly skimmed milk or skimmed milk by ultrafiltration; and
- Lactose¹

3.2 Permitted nutrients

Where allowed in accordance with the *General Principles for the Addition of Essential Nutrients for 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 country including, where appropriate, the prohibition of the use of particular nutrients.

3.3 Composition

Blend of skimmed milk and vegetable fat in powdered form

Minimum total fat	26% m/m
Maximum water ^(a)	5% m/m
Minimum milk protein in milk solids-not-fat ^(a)	34% m/m

Reduced fat blend of skimmed milk powder and vegetable fat in powdered form

Total fat	More than 1.5% and less than 26% m/m
Maximum water ^(a)	5% m/m
Minimum milk protein in milk solids-not-fat ^(a)	34% m/m

^(a) The milk solids-not-fat content includes water of crystallization of the lactose.

¹ For specification, see relevant Codex Standard.

4. FOOD ADDITIVES

Only those food additives listed below may be used and only within limits specified.

INS no.	Name of additive	Maximum level
Stabilizers		
331(i)	Sodium dihydrogen citrate	Limited by GMP
331(iii)	Trisodium citrate	Limited by GMP
332(i)	Potassium dihydrogen citrate	Limited by GMP
332(ii)	Tripotassium citrate	Limited by GMP
508	Potassium chloride	Limited by GMP
509	Calcium chloride	Limited by GMP
Acidity regulators		
339(i)	Sodium dihydrogen phosphate	4 400 mg/kg, singly or in combination as phosphorous
339(ii)	Disodium hydrogen phosphate	
339(iii)	Trisodium phosphate	
340(i)	Potassium phosphate	
340(ii)	Dipotassium hydrogen phosphate	
340(iii)	Tripotassium phosphate	
341(i)	Calcium dihydrogen phosphate	
341(ii)	Calcium hydrogen phosphate	
450(i)	Disodium diphosphate	
450(ii)	Trisodium diphosphate	
450(iii)	Tetrasodium diphosphate	
450(v)	Tetrapotassium diphosphate	
450(vi)	Dicalcium diphosphate	
450(vii)	Calcium dihydrogen diphosphate	
451(i)	Pentasodium triphosphate	
451(ii)	Pentapotassium triphosphate	
452(i)	Sodium polyphosphate	
452(ii)	Potassium polyphosphate	
452(iii)	Sodium calcium polyphosphate	
452(iv)	Calcium polyphosphates	
452(v)	Ammonium polyphosphates	
500(i)	Sodium carbonate	Limited by GMP
500(ii)	Sodium hydrogen carbonate	Limited by GMP
500(iii)	Sodium sesquicarbonate	Limited by GMP
501(i)	Potassium carbonates	Limited by GMP
501(ii)	Potassium hydrogen carbonate	Limited by GMP
Emulsifiers		
322	Lecithins	Limited by GMP
471	Mono- and diglycerides of fatty acids	Limited by GMP

INS no.	Name of additive	Maximum level
Anticaking agents		
170(i)	Calcium carbonate	Limited by GMP
504(i)	Magnesium carbonate	Limited by GMP
530	Magnesium oxide	Limited by GMP
551	Silicon dioxide, amorphous	Limited by GMP
552	Calcium silicate	Limited by GMP
553(i)	Magnesium silicate, synthetic	Limited by GMP
553(iii)	Talc	Limited by GMP
554	Sodium aluminium silicate	570 mg/kg, expressed as aluminium
341(iii)	Tricalcium phosphate	4 400 mg/kg, singly or in combination as phosphorous
343(iii)	Trimagnesium phosphate	
Antioxidants		
300	Ascorbic acid, L-	500 mg/kg as ascorbic acid
301	Sodium ascorbate	
304	Ascorbyl palmitate	80 mg/kg, singly or in combination as ascorbyl stearate
305	Ascorbyl stearate	
319	Tertiary butylhydroquinone	100 mg/kg singly or in combination. Expressed on fat or oil basis
320	Buthylated hydroxyanisole	
321	Buthylated hydroxytoluene	

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.

The vegetable oils/fat used in the manufacture of the products covered by this Standard shall comply with the Maximum Levels for contaminants and toxins specified for the oils/fats by the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995) and with the maximum residue limits for pesticides established for the oils/fats 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) the following specific provisions apply:

7.1 Name of the food

The name of the food shall be:

- Blend of Skimmed Milk and Vegetable Fat in Powdered Form; or
- Reduced Fat Blend of Skimmed Milk and Vegetable Fat in Powdered Form.

Other names may be used if allowed by national legislation in the country of retail sale.

7.2 Declaration of total fat content

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

A statement shall appear on the label as to the presence of edible vegetable fat and/or edible vegetable oil. When required by the country of retail sale, the common name of the vegetable from which the fat or oil is derived shall be included in the name of the food or as a separate statement.

7.3 Declaration of milk protein

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

7.4 List of ingredients

Notwithstanding the provision of Section 4.2.1 of the *General Standard for the Labelling of Prepackaged Foods* (CXS 1-1985) milk products used only for protein adjustment need not be declared.

7.5 Advisory statement

A statement shall appear on the label to indicate that the product should not be used as a substitute for infant formula. For example, "NOT SUITABLE FOR INFANTS".

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.