

CODEX GENERAL STANDARD FOR CHEESE
CODEX STAN A-6-1978, Rev.1-1999, Amended 2006

1. SCOPE

This Standard applies to all products, intended for direct consumption or further processing, in conformity with the definition of cheese in Section 2 of this Standard. Subject to the provisions of this Standard, standards for individual varieties of cheese, or groups of varieties of cheese, may contain provisions which are more specific than those in this Standard and in these cases, those specific provisions shall apply.

2. DESCRIPTION

2.1 Cheese is the ripened or unripened soft, semi-hard, hard, or extra-hard product, which may be coated, and in which the whey protein/casein ratio does not exceed that of milk, obtained by:

- (a) coagulating wholly or partly the protein of milk, skimmed milk, partly skimmed milk, cream, whey cream or buttermilk, or any combination of these materials, through the action of rennet or other suitable coagulating agents, and by partially draining the whey resulting from the coagulation, while respecting the principle that cheese-making results in a concentration of milk protein (in particular, the casein portion), and that consequently, the protein content of the cheese will be distinctly higher than the protein level of the blend of the above milk materials from which the cheese was made; and/or
- (b) processing techniques involving coagulation of the protein of milk and/or products obtained from milk which give an end-product with similar physical, chemical and organoleptic characteristics as the product defined under (a).”

2.1.1 Ripened cheese is cheese which is not ready for consumption shortly after manufacture but which must be held for such time, at such temperature, and under such other conditions as will result in the necessary biochemical and physical changes characterizing the cheese in question.

2.1.2 Mould ripened cheese is a ripened cheese in which the ripening has been accomplished primarily by the development of characteristic mould growth throughout the interior and/or on the surface of the cheese.

2.1.3 Unripened cheese including fresh cheese is cheese which is ready for consumption shortly after manufacture.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS**3.1 RAW MATERIALS**

Milk and/or products obtained from milk.

3.2 PERMITTED INGREDIENTS

- Starter cultures of harmless lactic acid and/or flavour producing bacteria and cultures of other harmless microorganisms
- Safe and suitable enzymes
- Sodium chloride
- Potable water

4. FOOD ADDITIVES

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

Unripened cheeses

As listed in the Codex Standard for Unripened Cheese Including Fresh Cheese.

Cheeses in Brine

As listed in the Codex Standard for Cheeses in Brine (CODEX STAN 208-1999).

Ripened cheeses, including mould ripened cheeses

Additives not listed below but provided for in Codex individual standards for varieties of ripened cheeses may also be used for similar types of cheese within the limits specified within those standards.

<i>INS No.</i>	<i>Name</i>	<i>Maximum Level</i>
<i>Colours</i>		
100	Curcumins (for edible cheese rind)	Limited by GMP
101	Riboflavins	Limited by GMP
120	Carmines (for red marbled cheeses only)	Limited by GMP
140	Chlorophylls (for green marbled cheeses only)	Limited by GMP
141	Copper chlorophylls	15 mg/kg
160a(i)	β -Carotene (synthetic)	25mg/kg
160a(ii)	Carotenes (natural extracts)	600 mg/kg
160b	Annatto extracts	
	- normal coloured	10 mg/kg (on bixin/norbixin basis)
	- orange coloured	25 mg/kg (on bixin/norbixin basis)
	- deep orange coloured	50 mg/kg (on bixin/norbixin basis)
160c	Paprika oleoresins	Limited by GMP
160e	β -apo-Carotenal	35 mg/kg
160f	β -apo-8'-Carotenoic acid, methyl or ethyl ester	35 mg/kg
162	Beet red	Limited by GMP
171	Titanium dioxide	Limited by GMP
<i>Acidity regulators</i>		
170	Calcium carbonates)
504	Magnesium carbonates	) Limited by GMP
575	Glucono delta-lactone)
<i>Preservatives</i>		
200	Sorbic acid)
201	Sodium sorbate)
202	Potassium sorbate	) 3000 mg/kg calculated as sorbic acid
203	Calcium sorbate)
234	Nisin	12.5 mg/kg
239	Hexamethylene tetramine (Provolone only)	25 mg/kg, expressed as formaldehyde
251	Sodium nitrate	) 50 mg/kg, expressed as NaNO ₃
252	Potassium nitrate)
280	Propionic acid	) 3000 mg/kg, calculated as propionic acid
281	Sodium propionate	) acid
282	Calcium propionate)
1105	Lysozyme	Limited by GMP
<u>For surface/rind treatment only:</u>		
200	Sorbic acid)
202	Potassium sorbate	) 1 g/kg singly or in combination, calculated as sorbic acid
203	Calcium sorbate)
235	Pimaricin (natamycin)	2 mg/dm ² of surface. Not present in a depth of 5 mm

Miscellaneous additive

508	Potassium chloride	Limited by GMP
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*Sliced, cut, shredded or grated cheese**Anti-caking agents*

460	Cellulose	Limited by GMP
551	Silicon dioxide, amorphous)
552	Calcium silicate)
553	Magnesium silicates)
554	Sodium aluminosilicate	) 10 g/kg singly or in combination.
555	Potassium aluminosilicate	) Silicates calculated as silicon dioxide
556	Calcium aluminium silicate)
559	Aluminium silicate)
560	Potassium silicate)

Preservatives

200	Sorbic acid)
202	Potassium sorbate	) 1 g/kg singly or in combination,
203	Calcium sorbate	) calculated as sorbic acid

5. CONTAMINANTS**5.1 HEAVY METALS**

The products covered by this Standard shall comply with the maximum limits established by the Codex Alimentarius Commission.

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.

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 Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1-1969), the Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 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 for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. LABELLING

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

7.1 NAME OF THE FOOD

The name of the food shall be cheese. However, the word “cheese” may be omitted in the designation of an individual cheese variety reserved by a Codex standard for individual cheeses, and, in the absence thereof, a variety name specified in the national legislation of the country in which the product is sold, provided that the omission does not create an erroneous impression regarding the character of the food.

7.1.1 In case the product is not designated with a variety name but with the designation "cheese" alone, the designation may be accompanied by the appropriate descriptive terms in the following table:

Designation according to firmness and ripening characteristics		
According to firmness: Term 1		According to principal ripening: Term 2
MFFB %	Designation	
< 51	Extra hard	Ripened
49-56	Hard	Mould ripened
54-69	Firm/Semi-hard	Unripened/Fresh
> 67	Soft	In Brine

MFFB equals percentage moisture on a fat-free basis, i.e.,

$$\frac{\text{Weight of moisture in the cheese}}{\text{Total weight of cheese} - \text{Weight of fat in the cheese}} \times 100$$

Example:

The designation of a cheese with moisture on a fat-free basis of 57% which is ripened in a manner similar in which Danablu is ripened would be:

"Mould ripened firm cheese or firm mould ripened cheese."

7.2 DECLARATION OF MILKFAT CONTENT

The milkfat 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, (ii) as a percentage of fat in dry matter, or (iii) in grams per serving as quantified in the label provided that the number of servings is stated.

Additionally, the following terms may be used:

<i>High fat</i>	(if the content of FDM is above or equal to 60%);
<i>Full fat</i>	(if the content of FDM is above or equal to 45% and less than 60%)
<i>Medium fat</i>	(if the content of FDM is above or equal to 25% and less than 45%)
<i>Partially skimmed</i>	(if the content of FDM is above or equal to 10% and less than 25%)
<i>Skim</i>	(if the content of FDM is less than 10%)

7.3 DATE MARKING

Notwithstanding the provisions of Section 4.7.1 of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the date of minimum durability need not be declared in the labelling of firm, hard and extra hard cheese which are not mould/soft-ripened and not intended to be purchased as such by the final consumer: in such cases the date of manufacture shall be declared.

7.4 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 (CODEX STAN 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, and in the absence of such a container on the cheese itself. 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.

8. METHODS OF SAMPLING AND ANALYSIS

See CODEX STAN 234-1999.

APPENDIX¹**CHEESE RIND**

During ripening of the moulded cheese curd in natural creation or in environments in which the air humidity and, possibly, air composition are controlled, the outside of the cheese will develop into a semi-closed layer with a lower moisture content. This part of the cheese is called **rind**. The rind is constituted of cheese mass which, at the start of the ripening, is of the same composition as the internal part of the cheese. In many cases, the brining of cheese initiates the formation of rind. Due to the influence of the salt gradient in the brine, of oxygen, of drying out and of other reactions, the rind successively becomes of a somewhat different composition than the interior of the cheese and often presents a more bitter taste.

During or after ripening the cheese rind can be treated or can be naturally colonized with desired cultures of microorganisms, for instance *Penicillium candidum* or *Brevibacterium linens*. The resulting layer, in some cases referred to as **smear**, forms a part of the rind.

Rindless cheese is ripened by the use of a ripening film. The outer part of that cheese does not develop a rind with a lower moisture content although influence of light of course can cause some difference compared to the inner part.

CHEESE SURFACE

The term "**cheese surface**" is used for the outside layer of cheese or parts of cheese, even in the sliced, shredded or grated form. The term includes the outside of the whole cheese, disregarding whether a rind has been formed or not.

CHEESE COATINGS

Cheese can be coated prior to the ripening, during the ripening process or when the ripening has been finished. When a coating is used during ripening the purpose of the coating is to regulate the moisture content of the cheese and to protect the cheese against microorganisms.

Coating of a cheese after the ripening has been finished is done to protect the cheese against microorganisms and other contamination, to protect the cheese from physical damage during transport and distribution and/or to give the cheese a specific appearance (e.g. coloured).

Coating can be distinguished very easily from rind, as coatings are made of non-cheese material, and very often it is possible to remove the coating again by brushing, rubbing or peeling it off.

Cheese can be coated with:

- A film, very often polyvinylacetate, but also other artificial material or material composed of natural ingredients, which helps to regulate the humidity during ripening and protects the cheese against microorganisms (for example, ripening films).²
- A layer, mostly wax, paraffin or a plastic, which normally is impermeable to moisture, to protect the cheese after ripening against microorganisms and against physical damage during retail handling and, in some cases to contribute to the presentation of the cheese.

¹ Amendment adopted by the 26th Session of the Codex Alimentarius Commission.

² Wheat gluten or wheat protein products should not be used for technological reasons e.g. coating or processing aids for foods which are gluten-free by nature - Codex Standard for Wheat Protein Products including Wheat Gluten (CODEX STAN 163-1987).