

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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

GENERAL STANDARD FOR CHEESE

CXS 283-1978

Adopted in 1978. Revised in 1999.

Amended in 2006, 2008, 2010, 2013, 2018, 2021, 2022 and 2024.

2024 Amendments

Following decisions taken at the Forty-seventh Session of the Codex Alimentarius Commission in December 2024, amendments were made in Section 4 Food additives.

2022 Amendments

Following decisions taken at the Forty-fifth Session of the Codex Alimentarius Commission in December 2022, amendments were made in Section 7.4 Labelling of non-retail containers.

1. SCOPE

This standard (formerly Codex STAN A-6-1973), 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 and potassium chloride as a salt substitute; and
- potable water.

4. FOOD ADDITIVES

Unripened cheeses

As listed in the *Group standard for unripened cheese including fresh cheese* (CXS 221-2001).¹

Cheeses in brine

As listed in the *Standard for cheeses in brine* (CXS 208-1999).²

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.

Only those additive classes indicated as justified in Table A may be used for the product categories specified.

Acidity regulators, colours, and preservatives used in accordance with Tables 1 and 2 of the *General standard for food additives* (CXS 192-1995)³ in food category 01.6.2.1 (Ripened cheese, includes rind) and only certain acidity regulators, anticaking agents, colours and preservatives in Table 3 are acceptable for use in foods conforming to this standard.

Table A

Additive functional class	Justified use	
	Cheese mass	Surface/rind mass
Colours:	X	X ^b
Bleaching agents:	-	-
Acidity regulators:	X	-
Stabilizers:	-	-
Thickeners:	-	-
Emulsifiers:	-	-
Antioxidants:	-	-
Preservatives:	X	X
Foaming agents:	-	-
Anticaking agents:	-	X ^a
Packaging gas:	-	-

^a For the surface of sliced, cut, shredded or grated cheese only.

^b For edible cheese rind.

X The use of additives belonging to the class is technologically justified.

– The use of additives belonging to the class is not technologically justified.

4.1 Processing aids

Processing aids used in products conforming to this standard should be consistent with the *Guidelines on substances used as processing aids* (CXG 75-2010).⁴

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).⁵

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* and with the maximum residue limits for veterinary drug residues and pesticides established for milk 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 *General principles of food hygiene* (CXC 1-1969),⁶ the *Code of hygienic practice for milk and milk products* (CXC 57-2004)⁷ 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).⁸

7. LABELLING

In addition to the provisions of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985)⁹ and the *General standard for the use of dairy terms* (CXS 206-1999),¹⁰ 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.

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 Table B:

Table B

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 percent 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 (FDM), 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:

High fat	(if the content of FDM is above or equal to 60%);
Full fat	(if the content of FDM is above or equal to 45% and less than 60%)
Medium fat	(if the content of FDM is above or equal to 25% and less than 45%)
Partially skimmed	(if the content of FDM is above or equal to 10% and less than 25%)
Skim	(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 pre-packaged foods*, 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

The labelling of non-retail containers should be in accordance with the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).¹¹

8. METHODS OF ANALYSIS AND SAMPLING

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)¹² relevant to the provisions in this standard, shall be used.

APPENDIXⁱ**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 polyvinyl acetate, 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).ⁱⁱ
- 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.

ⁱ Amendment adopted by the 26th Session of the Codex Alimentarius Commission (2003).

ⁱⁱ 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 – *Standard for wheat protein products including wheat gluten* (CXS 163-1987).

NOTES

-
- ¹ FAO and WHO. 2001. *Group standard for unripened cheese including fresh cheese*. Codex Alimentarius Standard, No. CXS 221-2001. Codex Alimentarius Commission. Rome.
- ² FAO and WHO. 1999. *Standard for cheeses in brine*. Codex Alimentarius Standard, No. CXS 208-1999. Codex Alimentarius Commission. Rome.
- ³ FAO and WHO. 1995. *General standard for food additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.
- ⁴ FAO and WHO. 2010. *Guidelines on substances used as processing aids*. Codex Alimentarius Guideline, No. CXG 75-2010. Codex Alimentarius Commission. Rome.
- ⁵ FAO and WHO. 1995. *General standard for contaminants and toxins in food and feed*. Codex Alimentarius Standard, No. CXS 193-1995. Codex Alimentarius Commission. Rome.
- ⁶ FAO and WHO. 1969. *General principles of food hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.
- ⁷ FAO and WHO. 2004. *Code of hygienic practice for milk and milk products*. Codex Alimentarius Code of Practice, No. CXC 57-2004. Codex Alimentarius Commission. Rome.
- ⁸ FAO and WHO. 1997. *Principles and guidelines for the establishment and application of microbiological criteria related to foods*. Codex Alimentarius Guideline, No. CXG 21-1997. Codex Alimentarius Commission. Rome.
- ⁹ FAO and WHO. 1985. *General standard for the labelling of pre-packaged foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.
- ¹⁰ FAO and WHO. 1999. *General standard for the use of dairy terms*. Codex Alimentarius Standard, No. CXS 206-1999. Codex Alimentarius Commission. Rome.
- ¹¹ FAO and WHO. 2021. *General standard for the labelling of non-retail containers of foods*. Codex Alimentarius Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.
- ¹² FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.