

National Standard of the People's Republic of China

GB 5420-2021

National Food Safety Standard Cheese

食品安全国家标准

干酪

- Date of Publication: 2021-02-22
- Date of Implementation: 2021-11-22
- Issued by: National Health Commission and State Administration for Market Regulation

DISCLAIMER: The English version is an unofficial translation of the original in Chinese, for information and reference purposes only. In case of a discrepancy, the Chinese original standard will prevail.

Foreword

The Standard replaces GB 5420-2010.

Compared with GB 5420-2010, the main changes are made to the Standard as follows:

- Scope is amended;
- Terms and definitions of the product is amended;
- Sensory requirement is amended;
- microorganism index is amended;
- “4. Other requirements” is added;
- “Appendix A” is added;

National food safety standard

Cheese

1. Scope

The standard applies to cheese.

2. Terms and Definitions

2.1 Cheese

Cheese refers to a kind of dairy product in a ripened or unripened, soft, semi-solid, solid or especially solid form, possibly having a coat, whose proportion of whey protein/casein does not exceed the ratio in milk (or other dairy animals) in the total product composition(except whey cheese). Cheese is produced through the following processes:

- a) protein in milk and / or dairy products is curdled or partially curdled under the action of rennet or other adequate milk coagulant (or directly using the protein curd as raw material), adding or not adding fermentation bacteria, edible salt, food additives or food nutrition fortifier, exhausting or not excreting (when the protein curd is used as the raw material) milk clear to obtain a product in a solid or semi-solid form produced through fermentation or non-fermentation processes;
- (b) The process includes curdling of proteins in milk and/or dairy products, it then endows the final products with physical, chemical and sensory characteristics which are similar to the description in step a).

Note: in process a) and b), other raw food materials with specific flavor can be added (the addition amount is not more than 8%), such as white granulated sugar, garlic, pepper, etc.; the solid product can be processed into various forms, and other raw food materials (the addition amount is not more than 8%) can be added to prevent product adhesion. The total amount of other food raw materials with specific flavor and other food raw materials for preventing product adhesion shall not exceed 8%.

2.1.1 Ripened cheese

The ripened cheese refers to the coagulation in the process, and it cannot be consumed immediately after being produced. It must be subject to biochemical and physical processes after being stored for a certain period of time at a specific temperature and other conditions in order to produce its special cheese flavor.

2.1.2 Mold ripened cheese

Mold ripened cheese refers to the cheese which is ripened by promoting the mold within the cheese and(or) on the surface of the cheese.

2.1.3 Unripened cheese (including fresh cheese)

Unripened cheese (including fresh cheese) refers to the cheese that can be consumed immediately after being prepared.

3. Technical Requirements

3.1 Requirements for raw materials

3.1.1 Raw milk: should comply with the requirements of GB 19301.

3.1.2 Coating: should comply with relevant standards and/or regulations.

3.1.3 Other raw materials: should comply with relevant standards and/or regulations.

3.2 Sensory requirements:

should conform to the requirements in Table 1.

Table 1 Sensory indices

Item	Requirements	Testing method
Color	Possess the color that this kind of products should have.	Take an appropriate amount of sample on a white plate (porcelain plate or the same type of container) and observe the color and texture under natural light. Smell it and feel its taste after rinsing the mouth with warm water.
Taste and aroma	Possess the taste and aroma that the products should have.	
Organizational state	Possess the organizational state that this type of product should have	

3.3 Contaminants and Mycotoxin Limits

3.3.1 Contaminants limits should conform to the requirements of GB 2762.

3.3.2 Mycotoxin Limits should conform to the requirements of GB 2761.

3.4 Microorganism Limits

3.4.1. Pathogenic bacteria limits should conform to the requirements of GB 29921.

3.4.2 Microorganism limits should conform to the requirements listed in Table 2.

Table 2 Index of microorganism

Item	Sampling plan ^a and limits				Test method
	n	c	m	M	
Coliforms (CFU/g)	5	2	10 ²	10 ³	GB 4789.3
a The analysis and treatment of samples should conform to GB 4789.1 and GB 4789.18.					

3.5 Food Additives and Nutrition Fortifiers

3.5.1 The use of food additives shall conform to GB2760.

3.5.2 The use of nutrition fortifiers shall conform to GB14880.

4. Other requirements

4.1 Cheese can also be called “milk cheese”.

4.2 Product label should clearly indicate the transportation and storage temperature.

4.3 For product names, please refer to Appendix A and add descriptive terms for hardness or fat content before the name “cheese”.

Appendix A

Requirements and conditions for the hardness and fat content claims of cheese

For product names, please refer to Table A.1 and add descriptive terms for hardness or fat content before the name “cheese”.

Table A.1 Requirements and conditions for the hardness and fat content claims of cheese

Item	descriptive term	Content requirement
percentage of moisture in the total fat-free mass of cheese ^a / %	soft	>67
	firm/semi-hard	54~69
	hard, and	49~56
	extra-hard	<51
percentage of fat content in dry matter ^b /%	high fat	≥ 60
	full fat	≥ 45,<60
	medium fat	≥ 25,<45
	partially skimmed	≥ 10,<25
	skimmed	<10
a. percentage of moisture in the total fat-free mass of cheese = $\frac{\text{moisture content}}{(\text{total mass of cheese} - \text{fat content})} \times 100\%$		
b. percentage of fat content in dry matter = $\frac{\text{fat}}{\text{total mass} - \text{moisture}} \times 100\%$		