



**National Standard  
of the People's Republic of China**

**GB19646-2010**

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**National food safety standard  
Cream, Butter and Anhydrous Milk Fat**

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Issued by the Ministry of Health  
of the People's Republic of China

## Preface

This standard is corresponding to Codex stan 279-1971(Revision 1999, Amendment 2003, 2006) Codex Standard for Butter, Codex stan 280-1973 (Revision 1999, Amendment 2006) Codex Standard for Milk fat Product and Codex stan 288 -1976 (Revision 2003, Amendment 2008 ) Codex Standard for Cream and Prepare Cream. The consistency degree of this standard with Codex Stan 279-1971 (Revision 1999, Amendment 2003, 2006), Codex stan 280-1973(Revision 1999, Amendment 2006 ) and Codex stan 288-1976(Revision 2003, Amendment 2008 ) is non-equivalent.

This standard replaces GB 19646-2005 Hygienic standard for Butter and Cream and the partial index of GB/T 5415-2008 Butter and GB 5414-85 Cream. In case of the index involved in GB/T 5415-2008 Butter and GB 5414-85 Cream, this standard shall prevail.

In comparison with GB 19646-2005, the major changes are as follows:

- The name of standard is changed to “Cream, Butter and Anhydrous Milk Fat”;
- The scope is modified;
- “terms and definitions” is added
- The sensory requirement is modified;
- The acidity requirement for cream is added;
- The requirement of milk solids non fat is added;
- The limits of contaminants are directly cited from the requirement of GB 2762;
- The limits of mycotoxins are directly cited from the requirement of GB 2761;
- The expression way of requirement for microbiology is modified;
- The requirement for nutrition enhancer is added.

This standard replaces all previous standards, those issued editions are:

- GB 19646-2005.

# National food safety standard

## Cream, Butter and Anhydrous Milk Fat

### 1. Scope

This standard applies to cream, butter and anhydrous milk fat.

### 2. Normative reference

The following normative documents are absolutely necessarily for the application of this standard. For dated references, only the dated edition of the normative document is referred to apply. For undated references, the latest edition including all the modified notes of the normative document is referred to apply.

### 3. Terms and definitions

#### 3.1 Cream

The products with milk fat content of 10.0% to 80.0%, which is made from milk fat-containing part separated from milk, with or without addition of other ingredients, food additives and nutrient fortifier.

#### 3.2 Butter

The products with milk fat content of not less than 80.0%, which is made from milk and (or) cream (fermented or non-fermented) , with or without addition of other ingredients, food additives and nutrient fortifier.

#### 3.3 Anhydrous Milk Fat

The products with milk fat content of no less than 99.8%, which is made from milk and (or) butter and cream (fermented or non-fermented) , with or without addition of food additives and nutrient fortifier.

### 4. Technical Requirements

#### 4.1 Raw material requirements

4.1.1 Raw milk: should comply with GB 19301

4.1.2 Other raw materials: should comply with the corresponding safety standard and relevant regulations.

#### 4.2 Sensory requirements

Sensory requirements shall be in accordance with table 1.

**Table 1 sensory requirements**

Item	Requirement	Test method
Color	ivory white, ivory yellow or the color that the corresponding ingredients should have	Add moderate test sample into a 50ml beaker, and observe the color, structure and appearance of the test sample with nature daylight. Smell and taste after gargling with warm water
Taste and aroma	Taste and aroma that cream, butter and anhydrous milk fat should have, no abnormal flavor	
Structure and appearance	Well-proportioned, allowing deposition of corresponding ingredients , no foreign matter by eyes	

#### 4.3 Physical- chemical requirements

Physical-chemical requirements should comply with Table 2.

**Table2. Physical- chemical requirements**

Item	Limits			Test method
	Cream	Butter	Anhydrous milk fat	
Moisture /(%) ≤	—	16.0	0.1	Test method of cream should comply with GB 5009.3; Test method of anhydrous butter should comply with Karl Fischer method in GB 5009.3
Milk fat/ (%) ≥	10.0	80.0	99.8	GB 5413.3 <sup>a</sup>
Acidity <sup>b</sup> / (°T) ≤	30.0	20.0	—	GB 5413.34
MSNF <sup>c</sup> / (%) ≤	—	2.0	—	—

a: fat content in anhydrous butter (%)=100%-moisture content(%)  
b: not apply to the product with fermented cream as ingredient.  
c: MSNF=100%- fat content(%) -moisture content(%) ( for salted butter, should minus salt )

#### 4.4 Limits of contaminants

Limits of contaminants should comply with GB 2762.

#### 4.5 Limits of Mycotoxins

Limits of mycotoxins should comply with GB 2761.

#### 4.6 Microbiology requirements

4.6.1 Cream products produced from canning process or UHT sterilization process should meet the commercial sterility, and should be tested by the method regulated by GB/T 4789.26.

4.6.2 Other products should comply with Table 3.

**Table3. Microbiology limits**

Item	Sampling programs <sup>a</sup> and limits(if not appointed, described as CFU/g or CFU/ml)				Test method
	n	c	m	M	
Aerobic Plate Count <sup>b</sup>	5	2	10000	100000	GB 4789.2
Coliforms	5	2	10	100	GB 4789.3 method of agar plate count
Staphylococcus aureus	5	1	10	100	GB 4789.10 method of agar plate count
Salmonella	5	0	0/25g(ml)	—	GB 4789.4
Moulds ≤	90				GB 4789.15
a: the method of sample analysis and treatment should be complied with GB 4789.1 and GB 4789.18.					
b: not include product with fermented cream as ingredient.					

#### 4.7 Food additives and nutrient fortifier

4.7.1 The quality of food additives and nutrient fortifier should comply with corresponding safety standards and regulations.

4.7.2 The using of food additives and nutrient fortifier should comply with GB 2760 and GB 14880.