

GB 19646-2025

**National Food Safety Standard**  
**Cream, Butter, and Anhydrous Milk Fat**

**Foreword**

The Standard replaces GB 19646-2010 the National Food Safety Standard Cream, Butter, and Anhydrous Milk Fat.

Compared with GB 19646-2010, the standard mainly has the following changes:

- Modified terminology and definitions;
- Modified sensory requirements;
- Modified physical and chemical indicators;
- Modified microbial limits;
- Added “Others” under Article 4.

**National Food Safety Standard**  
**Cream, Butter, and Anhydrous Milk Fat**

**1 Scope**

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

## **2 Terms and Definitions**

### **2.1 Cream**

#### **2.1.1 Cream**

The product with a fat content of 10.0g/100g~80.0g/100g, obtained from processing the fat-containing part separated from raw milk, with or without adding food additives.

#### **2.1.2 Modified Cream**

The product with a fat content of 10.0g/100g~80.0g/100g, obtained from processing one or more ingredients of raw milk, cream, butter, or anhydrous milk fat as the main raw materials, with one or more other ingredients (excluding non-milk fat), food additives, and nutrition fortification substances added.

### **2.2 Butter**

The product with a fat content of not less than 80.0g/100g, obtained through processing one or more ingredients of raw milk, cream, and anhydrous milk fat as the main raw materials, with or without adding other raw materials (excluding non-milk fat) and food additives.

### **2.3 Anhydrous Milk Fat**

A product with a fat content of not less than 99.8g/100g, obtained through processing one or more ingredients of raw milk, cream, and butter, with or without food additives.

## **3. Technical Requirements**

### **3.1 Raw material requirements**

**3.1.1** Raw milk: should comply with the provisions of GB19301<sup>1</sup>.

**3.1.2** Other raw materials: should comply with the corresponding food standards and relevant regulations.

### **3.2 Sensory requirements**

Sensory requirements should comply with the provisions of Table 1.

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<sup>1</sup> National Food Safety Standard for Raw Milk.

**Table 1: Sensory Requirements**

Item	Requirements	Testing Method
Color	Milky white, milky yellow, or color of corresponding auxiliary materials.	Take an appropriate amount of sample and place it in a 50 mL beaker. Observe the color and texture under natural light. Smell its odor, rinse your mouth with warm water, and taste it.
Taste, odor	It has the taste and smell of cream, modified cream, butter, anhydrous milk fat or corresponding auxiliary materials, and has no abnormal smell.	
Status	Basically uniform, with the corresponding auxiliary material sediment allowed, and no visible foreign object.	

### 3.3 Physical and Chemical Indicators

The physical and chemical indicators shall comply with the provisions in Table 2.

**Table 2: Physical and Chemical Indicators**

Item	Indicator			Testing Method
	Cream, Modified cream	Butter	Anhydrous Milk Fat	
Water content / (g/ 100 g) ≤	--	16.0	0.1	Butter shall be tested according to GB 5009.3; anhydrous milk fat shall be tested according to Karl Fischer method in GB 5009.3.
Fat / (g/100 g) ≥	10.0	80.0	99.8	Anhydrous milk fat shall be tested according to [100-water content (g/100g)] in GB 5009.6.
Acidity <sup>a</sup> / (°T) ≤	30.0	20.0	--	GB 5009.239
<sup>a</sup> not applicable to products that are processed through fermentation or acidity adjustments.				

### 3.4 Contaminant Limits and Mycotoxin Limits

**3.4.1** The limits of contaminants shall comply with provisions of GB 2762<sup>2</sup>.

**3.4.2** The limits of mycotoxin shall comply with provisions of GB 2761<sup>3</sup>.

### 3.5 Microbiological Limits

<sup>2</sup> National Food Safety Standard Maximum Levels of Contaminants in Foods ([GB2762-2022](#))

<sup>3</sup> National Food Safety Standard for Maximum Levels of Mycotoxins in Foods ([GB2761-2017](#))

**3.5.1** It should meet the commercial sterilization requirements of cream products and be tested according to the methods specified in GB4789.26.

**3.5.2** The pathogenic bacteria limits of products produced by other processes shall comply with the provisions of GB 29921<sup>4</sup>, and the other microbial limits shall comply with the provisions of Table 3.

**Table 3: Microbiological Limits**

Item	Sampling plan <sup>a</sup> and limits (if not specified, shall be expressed with CFU/g)				Testing methods
	<i>n</i>	<i>c</i>	<i>m</i>	<i>M</i>	
Total bacterial count <sup>b</sup>	5	2	10 <sup>4</sup>	10 <sup>5</sup>	GB 4789.2
Coliform group	5	2	10	10 <sup>2</sup>	GB 4789.3
Mold ≤	90				GB 4789.15
<sup>a</sup> Collection and treatment of samples shall be carried out according to GB 4789.1 and GB 4789.18.					
<sup>b</sup> not applicable to products with fermentation processes.					

### 3.6 Food Additives and Nutritional Fortification Substances

**3.6.1** Use of food additives shall comply with provisions of GB 2760<sup>5</sup>.

**3.6.2** Use of food nutritional fortification substances shall comply with provisions of GB 14880<sup>6</sup>.

## 4 Other

**4.1** The product category should be indicated on the product label of cream. Fermented cream and blended cream should be labeled as fermented cream and fermented blended cream; artificially acidified cream and blended cream should be labeled as acidified cream and acidified blended cream.

**4.2** “奶油” can also be called “黄油”, and anhydrous “奶油” can also be called anhydrous “黄油” or anhydrous “乳脂”.

[GB 19646-2025 cream butter and anhydrous milk fat.pdf](#)

<sup>4</sup> National Food Safety Standard for Limits of Pathogens in Pre-packaged Foods ([GB29921-2021](#))

<sup>5</sup> National Food Safety Standard Usage Standard for Food Additives ([GB2760-2024](#))

<sup>6</sup> National Food Safety Standard Use of Nutritional Fortification Substances ([GB14880-2012](#))