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**National Standard of Food Safety
of People's Republic of China**

GBxxxx-xxxx

代替 GB 5414-1985、GB/T5415-2008、GB 19646—2005

Cream ,Butter and Anhydrous Milk Fat

(Draft for proposal)

Issued on xx-xx-xxxx

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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 A1-1971(Rev.1-1999), *Codex Standard for Butter*, Codex stan A-2-1973(Rev.1-1999), *Codex Standard for Milk fat Product* and Codex stan A-9-1976(Rev.1-2003), *Codex Standard for Cream* and Prepare Cream. The consistency degree of this standard with Codex Stan A1-1971(Rev.1-1999), Codex stan A-2-1973(Rev.1-1999) and Codex stan A-9-1976(Rev.1-2003) is non-equivalent.

This standard replaced GB 19646-2005 Hygienic standard for Cream and Butter and the safety index of GB/T 5415-2008 Butter and GB 5414-1985 Cream.

In comparison with GB 19646-2005 Hygienic standard for Cream and Butter, the major changes are as follows:

- The name of standard is changed to “Cream, Butter and Anhydrous Milk Fat”
- The scope is modified, adding some terms and definitions;
- the requirements for ingredients and accessories material is modified;
- Add “Acidity” to physical-chemical requirements of cream, also list the “water”, “fat” requirements respectively; add “milk solids non fat” requirement for butter, and “PV”, “FFA” to Anhydrous Milk Fat;
- “cream products processed through UHT sterilization should meet the commercial sterility” is added in microbiological requirement;
- The expressing way of microbiology parameters is changed;
- List the “Contaminants” and “Mycotoxins” respectively;
- Add testing methods of moisture content, fat content and commercial sterility.

This standard is proposed by and interpreted by Ministry of Health of P.R. China.

This standard replaces all previous standard as follows:

- GBn 143-81, GB 5414 -85;
- GB/T 5415-2008;
- GB 19646-2005.

Cream, Butter and Anhydrous Milk Fat

1. Scope

This standard stipulates terms and definitions of Cream, Butter and Anhydrous Milk Fat, technical requirements, food additives and nutrient fortifier, processing, packaging, labeling, storage & transportation, test methods.

This standard applies to the processing, circulation and supervision of Cream, Butter and Anhydrous Milk Fat.

This standard doesn't apply to margarine.

2. Normative Documents Cited by this Standard

The clauses in the following documents became clauses of this standard through the quotation in this standard. For cited documents with date, all their subsequent modification (corrected contents are not included) or revision do not apply to this Standard. However, parties having reached an agreement based on cited standards with date are encouraged to study whether the latest versions of the cited documents with date are applicable. For cited documents without date, the latest version applies to this Standard.

| | |
|------------|---|
| GB 2760 | Hygienic standard for uses of food additives |
| GB 2761 | Minimum levels of mycotoxins in Food |
| GB 2762 | Minimum levels of Contaminants in Foods |
| GB 4789.2 | Microbiological examination of food, Determination of Aerobic Plate Count |
| GB 4789.3 | Microbiological examination of food, Enumeration of Coliforms |
| GB 4789.4 | Microbiological examination of food, Examination of Salmonella |
| GB 4789.15 | Microbiological examination of food, Enumeration of Yeasts and Moulds |
| GB 4789.18 | Microbiological examination of food, Examination of milk & milk product |
| GB 4789.26 | Microbiological examination of food, Determination of commercial sterility in canned foods |
| GB 4789.37 | Microbiological examination of food, Enumeration of Staphylococcus aureus |
| GB 5009.3 | Determination of moisture content in foods |

| | |
|------------|---|
| GB xxxx | Determination of fat in milk product and foods for Infant and young children |
| GB /T 5530 | Animal and vegetable oil --Determination of acid value and acidity |
| GB /T 5538 | Animal and vegetable oil--Determination of PV |
| GB 7718 | General standard for the labeling of prepackaged foods |
| GB 12693 | Good manufacturing practice for dairy product factory |
| GB 13432 | General standard for the labeling of prepackaged foods for special dietary uses |
| GB 14880 | Hygienic standard for uses of food nutrient fortifier |
| GB 19301 | Raw milk |

3. Terms and definitions

The following terms and definitions apply to this standard.

3.1 Cream

The products with milk fat content of 10.0% to 80.0%, which is made from milkfat-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 not less than 99.8%, which is made from milk and (or) butter and cream(fermented or non-fermented) , with or without addition of other ingredients, food additives and nutrient fortifier.

4. Technical Requirements

4.1 Raw material requirements

4.1.1 Fresh milk: should comply with GB 19301

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

4.2 Sensory requirements

No odor, no foreign matter, have the inherent color, taste, flavor and texture that cream, butter and anhydrous milk fat should have.

4.3 Physical- chemical requirements

Should comply with Table 1.

Table 1. Physical- chemical requirements

| Item | Limits | | |
|---|--------|--------|--------------------|
| | Cream | Butter | Anhydrous milk fat |
| Moisture /(%) ≤ | — | 16.0 | 0.1 |
| Milk fat/(%) ≥ | 10.0 | 80.0 | 99.8 |
| Acidity ^a /(°T) ≤ | 30.0 | 20.0 | — |
| MSNF ^b /(%) ≤ | — | 2.0 | — |
| PV/(meq/kg) ≤ | — | — | 0.4 |
| FFA(as oleic acid)/(%) ≤ | — | — | 0.3 |
| a: not include product with fermented cream as ingredient | | | |
| b: MSNF=100%- fat content(%)-moisture content(%) (for salted butter, should minus salt) | | | |

4.4 Limits of contaminants

Should comply with GB 2762.

4.5 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.

4.6.2 Other products should comply with Table 2.

Table 2. Microbiology requirements

| Item | Sampling programs and limits |
|--|---|
| Aerobic Plate Count ^a | n=5, c=2, m=10000 cfu/g(mL), M=100000 cfu/g(mL) |
| Coliforms | n=5, c=2, m=10cfu/g(mL), M=100cfu/g(mL) |
| Moulds ≤ | 90 cfu/g(mL) |
| Salmonella | n=5, c=0, m=0cfu/25g(mL) |
| Staphylococcus aureus | n=5,c=1,m=10 cfu/g(mL), M=100 cfu/g(mL) |
| a: not include product with fermented cream as ingredient. | |

5. Food additives and nutrient fortifier

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

5.2 The varieties and dosage of food additives and nutrient fortifier should comply with GB 2760 and GB 14880.

6. Processing

Should comply with GB 12693.

7. Packaging

The packaging container and material of product should comply with corresponding standard and related regulations.

8. Labeling

The labeling should comply with GB 7788, GB 13432 and related provisions of state regulations. Need to indicate the fat content of the product.

9. Storage and Transportation

9.1 Storage

The product should be stored at dry, well-ventilated place, and should not stored with poisonous, harmful, peculiar smelled, volatile, corrosive substances in same place.

9.2 Transportation

During transportation, product should avoid exposure to sun and rain. And transportation shouldn't be mixed with poisonous, harmful, peculiar smelled substances or with substances that affecting product quality. Products require chill or freeze should be transported with refrigeration vehicles or refrigeration truck.

10 Testing methods

10.1 Sensory requirements

10.1.1 Color and organization state

Open the outer package of sample, take appropriate amount of sample in a white container, observe the color and texture in natural light; observation should carry out after melting for anhydrous milk fat.

10.1.2 Taste and flavor: take appropriate amount of sample, smell, then taste after gargling with warm water.

10.2 Physical-Chemical requirements

10.2.1 Moisture content: testing according to GB 5009.3; for anhydrous milk fat, should use Karl-Fischer method in GB5009.3.

10.2.2 Fat: testing according to GBxxxx for cream and butter; for anhydrous milk fat, $\text{fat}(\%) = 100\% - \text{moisture content}(\%)$

10.2.3 Acidity: testing according to GBxxxx.

10.2.4 PV: testing according to GB/T 5538.

10.2.5 Free Fatty Acid: testing according to GB/T 5530.

10.3 Microbiology requirements

The apparatus and materials for microbiology testing, sampling programs, and handling of testing sample should comply with GB 4789.18.

10.3.1 Aerobic Plate Count: according to testing method in GB 4789.2.

10.3.2 Coliforms: according to direct counting method in GB 4789.3.

10.3.3 Moulds: according to testing method in GB 4789.15.

10.3.4 Salmonella: according to testing method in GB 4789.4.

10.3.5 Staphylococcus aureus: according to testing method in GB 4789.37.

10.3.6 Commercial sterility: according to testing method in GB 4789.26.