

In substitution of GB 13102—2005、GB/T5417—2008

Condensed milk

Evaporated milk and sweetened condensed milk

(a draft for discussing)

National standard of People's Republic of China

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

Preface

This standard is corresponding to the Codex Alimentarius Commission (CAC) Codex Stan A-3-1971(Rev.1-1999) Standard for Evaporated Milks and Codex Stan A-4-1971(Rev.1-1999) Standard for Sweetened Condensed Milks. The degree of consistency between this standard and Codex Stan A-3-1971(Rev.1-1999) or Codex Stan A-4-1971(Rev.1-1999) is different.

This standard is in substitution of security index in GB 13102-2005 “Hygienic standard of condensed milk” and GB/T 5417-2008 “Condensed milk”.

The main changes in this standard compared with GB 13102-2005 are as following:

- The standard name is changed to be “Condensed milk” from “Hygienic standard of condensed milk”
- Contents of terms and definitions are added;
- Sensory requirements and inspection methods for senses are modified;
- Index of impurity degree is deleted;
- The physical and chemical indexes of evaporated milk, sweetened condensed milk and formulated condensed milk are made: the concreted standard values for protein, fat, milk solids, saccharose, water and acidity.
- Regulations from GB2762 is cited for contaminants limit;
- Regulations from GB2761 is cited for fungi toxin limit;
- Microorganism indexes of evaporated milk and formulated evaporated milk are modified to be “meet the commercial asepsis requirement”;
- The method of expression for the microorganism indexes is modified;
- Index of Shigella is deleted;
- Marked requirement of “this production is not suitable for children less than 36 months old to eat” is added.

This standard is issued by and relevant to the Ministry of Health, People's Republic of China.

Versions of standard substituted by this standard are:

- GB 5417-1985, GB 5417-1999, GB/T 5417-2008;
- GB/T 13102-1991, GB 13102-2005.

Condensed milk

1 Scope

The terms and definitions of condensed milk, technical requirements, food additives and nutritional supplements, process of production, and requirements for package, labeling, storage and transport as well as inspection methods are specified in this standard.

This standard is suitable for the production, circulation and supervision management of evaporated milk, sweetened condensed milk and formulated condensed milk.

2 Normative cited documents

The clauses in the following documents are cited by this standard and become the clauses in this standard. For the cited documents which are labeled with date, all their subsequent modification sheets (corrections are not included) or modified versions are not applicable for this standard. However, the sides coming to an agreement according to this standard are encouraged to study whether the newest version of these documents can be used or not. For the cited documents which are not labeled with date, their newest versions are applicable for this standard.

GB2760 Hygienic standard for the use of food additives

GB2761 Fungi toxin limit for food

GB2762 Contaminants limit for food

GB4789.2 Microbiological examination of food Determination of total numbers of colony

GB4789.3 Microbiological examination of food Counting of coliform group

GB4789.4 Microbiological examination of food Salmonella inspection

GB4789.10 Microbiological examination of food Inspection of staphylococcus aureus

GB4789.18 Microbiological examination of food Inspection of milk and dairy products

GB4789.26 Microbiological examination of food Commercial asepsis inspection of canned food

GB5009.3 Measurement of water in the food

GB5009.5 Measurement of protein in the food

GB5413.5 Measurement of lactose and saccharose in the food and dairy food for infants

GBXXXX Measurement of fat in the food and dairy food for infants

GBXXXX Acidity measurement for milk and dairy products

GB7718 General rules for the labeling of pre-packed food

GB12693 GMP regulations for companies producing dairy products

GB13432 General rules for the labeling of pre-packed special food

GB14880 Hygienic standard for the use of food nutrition supplements

GB19301 Raw fresh milk

3 Terms and definitions

The following terms and definitions are applicable for this standard

3.1 Evaporated milk

Viscous product produced using milk and/or milk powder as materials through adding or not adding food additives and food nutritional supplements.

3.2 Sweetened condensed milk

Viscous product produced using milk and/or milk powder and sugar as materials through adding or not adding food additives and food nutritional supplements.

3.3 Formulated condensed milk

Viscous product added with adjuvant and produced using milk and/or milk powder as main

materials through adding or not adding sugar, food additives and food nutritional supplements.

4 Technical requirements

4.1 Requirements for materials

4.1.1 Raw fresh milk: should meet the requirements of GB19301

4.1.2 Other materials: should meet the corresponding security standards and relevant regulations

4.2 Sensory indexes

The product should have the proper color, smell and taste, and have no contaminants and rare smell.

4.3 Physical and chemical indexes

The indexes should meet the regulations in table 1.

Table 1 Physical and chemical indexes

Items	Indexes			
	Evaporated milk	Sweetened condensed milk	Formulate d condense d milk	
			Formulated evaporated milk	Formulated sweetened condensed milk
Protein/(g/100g)≥	34% of the non-fat milk solids ^a		4.1	4.6
Fat (x)/(g/100g)	7.5≤X<15.0		X≥7.5	X≥8.0
Dairy solid ^b /(g/100g)≥	25.0	28.0	—	—
Saccharose/(g/100g)≤	—	45.0	—	48.0
Water/(%)	—	27.0	—	28.0
Acidity/(°T)≤	48.0			
a Non-fat solids=100%-measured value of fat (%)-measured value of water (%)-measured value of saccharose (%); b Milk solids=milk fat (%)+lactose (%)+milk protein(%)+inorganic salt (%).				

4.4 Contaminants limit

The indexes should meet the regulations in GB2762.

4.5 Fungi toxin limit

The indexes should meet the regulations in GB2761.

4.6 Microbial indexes

4.6.1 --Microorganism indexes of evaporated milk and formulated evaporated milk should meet the commercial asepsis requirements.

4.6.2 Sweetened condensed milk and formulated sweetened condensed milk should meet the regulations in table 2.

Table 2 Microbial indexes

Items	Sampling protocol and limits
Total colony amount	n=5, c=2, m=30000 cfu/g, M=100000 cfu/g
Coliform group	n=5, c=2, m=10 cfu/g, M=100 cfu/g
Salmonella	n=5, c=0, m=0 cfu/25g
Staphylococcus aureus	n=5, c=0, m=0 cfu/25g

5 Food additives and nutritional supplements

5.1 The quality of food additives and nutritional supplements should meet the corresponding standards and relevant regulations.

5.2 The kind and using amount of food additives and nutritional supplements should meet the regulations in GB2760 and GB14880.

6 Production process

It should meet the regulations in GB12693.

7 Package

The material of package container should meet the corresponding security standards and relevant regulations

8 Labeling

8.1 Labeling should meet the regulations in GB7718 or GB13432 and relevant national regulations.

8.2 “This production is not suitable for children less than 36 months old to eat” is labeled.

9 Storage and transport

9.1 Storage

The product should be stored in the dry and ventilated places. It should not be stored in the same place with stuffs which are toxic and harmful with rare smell, and easy to evaporate and corrupt.

9.2 Transport

The transport of products should avoid sunlight and rain. It should not be transported mixed with stuffs which are toxic and harmful with rare smell or with factors which can affect the quality of product.

10 Method of inspection

10.1 Sensory indexes

Appropriate amount of samples are poured into the flask and observed for its color and contaminants under natural light. Inspector should smell the sample and taste the sample after rinse their mouths.

10.2 Physical and chemical indexes

10.2.1 Protein: measured according to the method specified in GB5009.5.

10.2.2 Fat: measured according to the method specified in GBXXXX.

10.2.3 Lactose and saccharose: measured according to the method specified in GB5413.5.

10.2.4 Water: measured according to the method specified in GB5009.3.

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10.2.5 Acidity: measured according to the method specified in GBXXXX.

10.3 Microbial indexes

The equipments and materials for microbial inspection, sampling protocol, and process of samples for inspection are performed according to the regulations in GB4789.18.

10.3.1 Total amount of colony: inspected according to the method specified in GB4789.2.

10.3.2 Coliform group: measured using direct counting method specified in GB4789.3.

10.3.3 Salmonella: inspected according to the method specified in GB4789.4.

10.3.4 Staphylococcus aureus: inspected according to the method specified in GB4789.10.

10.3.5 Commercial asepsis: inspected according to the method specified in GB4789.26.

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