

# National food safety standard of People's Republic of China GB 13102—2010

Evaporated milk, sweetened condensed milk and formulated condensed  
milk

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## Preface

This standard is corresponding to the Codex Alimentarius Commission (CAC) Codex Stan 281-1971(Revision1999) Codex Standard for Evaporated Milks and Codex Stan 282-1971(Revision 1999) Codex Standard for Sweetened Condensed Milks. The degree of consistency between this standard and Codex Stan 281-1971(Revision1999) and Codex Stan 282-1971(Revision 1999) is different.

This standard is in substitution of security index in GB 13102-2005 “Hygienic standard of condensed milk” and some items in GB/T 5417-2008 “Condensed milk”. The items showed in GB/T 5417-2008 “Condensed milk” should refer to this standard.

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

- The standard name is changed to be “Condensed milk, Sweetened condensed milk and Formulated condensed milk” from “Hygienic standard of condensed milk”;
- Revise the “Scope” description;
- Contents of “terms and definitions” are added;
- Revise the “Sensory requirements”;
- Index of impurity degree is deleted;
- Index of moisture is added;
- Regulations from GB2762 is cited for contaminants limit;
- Regulations from GB2761 is cited for fungi toxin limit;
- The method of expression for the microorganism indexes is modified;
- Index of Shigella is deleted
- Index of food nutrition fortification is added

Versions of standard substituted by this standard are:

——GB/T 13102-1991, GB 13102-2005.

# Condensed milk, Sweetened Condensed Milk and Formulated condensed milk

## 1 Scope

This standard is suitable for evaporated milk, sweetened condensed milk and formulated condensed milk.

## 2 Normative cited documents

It is necessary for cited document for 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.

## 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 indexes should meet the regulations in table 1.

**Table 1 Sensory requirement**

Item	Requirement			Analysis method
	Evaporated milk	Sweetened Condensed milk	Formulated Condensed Milk	
Colour	Uniform colour of cream white and yellow		Proper colour of the material	Put sample into 50mL bottle and observe the colour and structure. Smell and taste after gargle with warm water
Taste and smell	With milk taste and smell	With milk aroma and pure sweet.	With taste and smell of milk and other material	
Structure	Exquisite, uniform structure, medium viscosity			

#### 4.3 Physical and chemical indexes

The indexes should meet the regulations in table 2.

**Table 2 Physical and chemical indexes**

Items	Indexes				Analysis method
	Evaporated milk	Sweetened condensed milk	Formulated condensed milk		
			Formulated evaporated milk	Formulated sweetened condensed milk	
Protein/(g/100g) $\geq$	34% of the non-fat milk solids <sup>a</sup>		4.1	4.6	GB5009.5
Fat (x)/(g/100g)	$7.5 \leq X < 15.0$		$X \geq 7.5$	$X \geq 8.0$	GB5413.3
Dairy solid <sup>b/</sup> (g/100g) $\geq$	25.0	28.0	—	—	—
Saccharose/(g/100g) $\leq$	—	45.0	—	48.0	GB5413.5
Water/ (%)	—	27.0	—	28.0	GB5009.3
Acidity/(OT) $\leq$	48.0				GB5413.34
a Non-fat solids=100%- fat (%)-water (%)-saccharose (%); b milk solid=100%- water (%)-saccharose (%).					

#### 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 3.

**Table 3 Microbial indexes**

Items	Sampling protocol <sup>a</sup> and limits				Analysis method
	n	c	m	M	
Total colony amount	5	2	30000	100000	GB4789.2
Coliform group	5	1	10	100	GB4789.3
Salmonella	5	0	0/25g(mL)	—	GB4789.10
Staphylococcus aureus	5	0	0/25g(mL)	—	GB4789.4
a Sample treatment and analysis should follow GB4789.1 and GB4789.18.					

#### 4.7 Food additives and nutritional supplements

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

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

#### 5 Other requirement

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