



National Standard of the People's Republic of China

GB 13102-2010

**National Food Safety Standard
Evaporated milk, Sweetened Condensed Milk and
Formulated Condensed Milk**

食品安全国家标准

炼乳

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DISCLAIMER: The English version is an unofficial translation of the original in Chinese for information and reference purposes only. In case of a discrepancy the Chinese original standard will prevail.

Foreword

This standard is based on Codex Stan 281-1971 (Rev 1999) Codex Standard for Evaporated Milks and Codex Stan 282-1971 (Rev 1999) Codex Standard for Sweetened Condensed Milks issued by Codex Alimentarius Commission (CAC). However, it is not equivalent to Codex Stan 281-1971 (Rev 1999), Codex Stan 282-1971 (Rev 1999) in conformity.

This standard supersedes parts of indexes in GB 13102-2005 Hygienic standard of condensed milk and GB/T 5417-2008 Condensed milk. This standard will take precedence in the requirements both in this standard and GB/T5417-2008.

Comparing with GB 13102-2005, the main changes in this standard are as following:

- The standard name is changed to “Evaporated milk, sweetened condensed milk and formulated condensed milk” from “Hygienic standard of condensed milk”;
- Description of the application scope is revised;
- Terms and definitions are refined;
- Sensory requirements are modified;
- Impurities index is removed;
- Moisture is added;
- Limits of contaminants will directly refer to GB 2762;
- Limits of mycotoxins will directly refer to GB 2761;
- Representation of microorganism index is revised;
- Requirement for Shigella is removed;
- Requirement for nutrition enhancer is added.

This standard supersedes all earlier versions, including:

- GB/T 13102-1991, GB 13102-2005

National Food Safety Standard

Evaporated milk, Sweetened Condensed Milk and Formulated Condensed Milk

1. Scope

This standard applies to evaporated milk, sweetened condensed milk and formulated condensed milk.

2. Normative reference documents

The normative references contain provisions which, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated reference documents, the latest version (including all its amendments) is applicable to this standard.

3. Terms and definitions

3.1 Evaporated milk

Viscous products that are produced by using raw milk and/or dairy products as raw materials, through adding or not adding food additives and food nutrition enhancers .

3.2 Sweetened condensed milk

Viscous products that are produced by using raw milk and/or dairy products and sugar as raw materials, through adding or not adding food additives and food nutrition enhancers.

3.3 Formulated condensed milk

Viscous products added with auxiliary materials and produced by using raw milk and/or dairy products as main raw materials, through adding or not adding sugar, food additives and food nutrition enhancers.

4. Technical requirements

4.1 Raw materials requirements

4.1.1 Raw milk: should comply with requirements in GB19301.

4.1.2 Other raw materials: should comply with relevant safety standards and/or regulations.

4.2 Sensory requirements: should comply with Table 1.

Table 1 Sensory Requirements

Items	Requirements			Test method
	Evaporated milk	Sweetened condensed milk	Formulated condensed milk	
Color	Lustrous, milky white or creamy milk yellow color with uniformity		With the color corresponding to that of the auxiliary materials	Take appropriate amount of sample to 50mL beaker, observe the color and texture under natural light, smell and taste after rinsing mouth with warm water.
Taste and Aroma	Milk taste and aroma	Milk flavor and pure sweetness	Taste and aroma corresponding to that of milk and auxiliary materials	
Texture	Uniform and fine texture, moderate viscosity			

4.3 Physical and chemical index: should comply with Table 2.

Table 2 Physical and Chemical index

Items	Index				Test method
	Evaporated milk	Sweetened condensed milk	Formulated condensed milk		
			Formulated evaporated milk	Formulated sweetened condensed milk	
Protein/(g/100g)≥	34% of non-fat milk solids a		4.1	4.6	GB 5009.5
Fat (x)/(g/100g)	7.5≤X<15.0		X ≥7.5	X ≥8.0	GB 5413.3
Milk solid b/ (g/100g)≥	25.0	28.0	-	-	-
Sucrose/(g/100 g)≤	-	45.0	-	48.0	GB 5413.5
Moisture/(%)≤	-	27.0	-	28.0	GB 5009.3
Acidity/(OT)≤	48.0				GB 5413.34

^a Non-fat milk solids (%)=100%-fat(%)-moisture (%)-sucrose (%)

^b Milk solids (%)=100%- moisture (%)-sucrose (%)

4.4 Contaminant Limits: Should comply with the requirements in GB 2762.

4.5 Mycotoxin Limits: Should comply with the requirements in GB 2761.

4.6 Microorganism Limits

4.6.1 Evaporated milk and formulated evaporated milk should comply with the requirements of commercial sterilization, and be tested with the method in GB/T 4789.26.

4.6.2 Sweetened condensed milk and formulated sweetened condensed milk should comply with the requirements of Table 3.

Table 3 Microorganism Limits

Items	Sampling plana and Limits (if not designated, expressed in CFU/g or CFU/mL)				Test method
	n	c	m	M	
Aerobic bacterial count	5	2	30,000	100,000	GB 4789.2
Coliforms	5	1	10	100	GB 4789.3 plate count
Staphylococcus aureus	5	0	0 /25g(mL)	-	GB 4789.10 Qualitative detection
Salmonella	5	0	0 /25g(mL)	-	GB 4789.4

^a The analysis and treatment of samples should conform to GB 4789.1 and GB 4789.18.

4.7 Food additives and nutrition enhancers

4.7.1 The quality of food additives and nutrition enhancers should comply with relevant standards and regulations.

4.7.2 The use of food additives and nutrition enhancers should comply with GB 2760 and GB 14880.

5. Others

5.1 The product should be labeled with the statement such as “This product cannot be used as a substitute of breast milk for infants” or other similar terms.