National Standard of the People's Republic of China

GB 19644-2010

National Food Safety Standard

Milk Powder

食品安全国家标准

乳粉

- Date of Publication:2010-03-26
- Date of Implementation: 2010-12-01
- Issued by: Ministry of Health

Foreword

This standard is based on the standard of CAC: Codex Stan 207-1999 Codex Standard for Milk Powders and Cream Powder. However, it is non-equivalent to Codex Stan 207-1999 in conformity.

This standard supersedes part of the indexes in GB 19644-2005 Milk Powder Hygiene Standard and GB/T 5410-2008 Milk Powder. In case of the index involved in GB/T 5410-2008 Milk Powder, this standard will take precedence.

Compared with GB 19644-2005, the major changes in this standard are as follows:

— The standard name is changed to “Milk powder”
— The application scope of this standard is modified;
— “Terms and definitions” is refined;
— The sensory requirement is modified;
— The requirement for sweetened whole milk powder is removed;
— The fat requirements for skimmed milk powder and partial skimmed milk powder are removed;
— “Reconstituted Lactic Acid Index Requirements” is added for milk powder products produced from ovine milk as raw material;
— Impurities Index is added;
— The limits of contaminants will directly refer to GB2762;
— The limits of mycotoxins will directly refer to GB2761;
— Representation of Microorganism parameters is modified;
— The requirement for nutrition enhancers is added;

The superseded former versions are:

— GB 19644-2005.

National food safety standard

Milk Powder

1. Scope

This standard applies to whole milk powder, skimmed milk powder, partially skimmed milk powder and formulated milk powder.

2. Normative reference

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 Milk powder

Powdered products produced from raw bovine milk (or ovine milk) as raw material.

3.2 Formulated milk powder

Powdered products with milk solid content no less than 70%, produced from raw bovine milk or ovine milk or its processed products as the major ingredient, with addition of other raw materials, with or without addition of food additives and nutrition enhancers.

4. Technical requirements

4.1 Raw material requirements

4.1.1 Raw milk: Should comply with the requirement of GB 19301.

4.1.2 Other raw materials: Should comply with relevant safety standards and regulations.

4.2 Sensory requirements

Sensory requirements should comply with the requirements in Table 1.

Table 1 Sensory requirements

Item	Requirements		Test Method
	Milk Powder	Formulated Milk Powder	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.
Color	milky yellow with good uniformity	Presenting supposed color for the product	
Taste and Aroma	Natural and pure milk-like taste and aroma	Presenting supposed taste and aroma for products in this category	
Texture and Appearance	Dry and proportioned powder		

4.3 Physicochemical requirements

Physicochemical requirements should comply with Table 2.

Table 2 Physicochemical requirements

Item	Limits		Testing method
	Milk powder	Formulated milk powder	
Protein/ (%) ≥	34% of MSNF [a]	16.5	GB 5009.5
Fat [b]/ (%) ≥	26.0	-	GB 5413.3
Acidity of reconstituted milk/ (°T) Bovine milk ≤ Ovine milk	 18 7-14	 - -	GB 5413.34
Impurity/ (mg/kg) ≤	16	-	GB 5413.30
Moisture / (%) ≤	5.0		GB 5009.3
[a] Milk Solids Non Fat (MSNF) (%)=100%-milk fat (%) – moisture (%) [b] Only apply to whole milk powder			

4.4 Limits of contaminants

The limits of contaminants should comply with GB 2762.

4.5 Limits of mycotoxins

The limits of mycotoxins should comply with GB 2761.

4.6 Microorganism requirements

The Microorganism requirements should comply with Table 3.

Table 3 Microorganism requirements

Item	Sampling plan [a] and limits (if not specified, in CFU/g)				Testing method
	n	c	m	M	
Aerobic plate count [b]	5	2	50,000	200,000	GB 4789.2
Coliforms	5	1	10	100	GB 4789.3 Plate Count
Staphylococcus aureus	5	2	10	100	GB 4789.10 Plate Count
Salmonella	5	0	0/25g	-	GB 4789.4
[a] The analysis and treatment of samples should conform to GB 4789.1 and GB 4789.18. [b] Not applicable to products added active bacteria (aerobe and facultative anaerobe)					

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.