

GB 19644-2024

National Food Safety Standard Milk Powder and Modified Milk Powder

Preface

This standard replaces GB 19644-2010 “National Food Safety Standard Milk Powder.” Compared with GB 19644-2010, the major changes contained in this standard are as below:

- The name of the standard is revised.
- The normative reference documents are deleted.
- The terms and definitions are revised.
- The sensory requirements are revised.
- The physical and chemical indicators are revised.
- The microbial limits are revised.
- The technical requirements for yak milk powder, camel milk powder, donkey milk powder, and horse milk powder are added.

1. Scope

This standard applies to milk powder (whole, skimmed, and semi-skimmed) and modified milk powder.

2. Terms and Definitions

2.1 Milk powder

A powdered product made from raw milk of a single variety through processing.

2.2 Modified milk powder

A powdered product with no less than 70% dairy solid content of the main ingredient, which is made from raw milk of a single variety and/or processed products of whole milk (or skimmed and semi-skimmed) and one or more of other raw materials (excluding whole, skimmed, semi-skimmed milk of other varieties), food additives, and nutrition enhancers are added, through processing.

3. Technical Requirements

3.1 Requirements on raw materials

3.1.1 Raw milk shall conform to GB 19301.

3.1.2 Other ingredients shall conform to corresponding food safety standards and relevant regulations.

3.2 Sensory requirements: shall conform to requirements listed in Table 1.

Table 1: Sensory Requirements

Item	Requirements		Testing Method
	Milk powder	Modified milk powder	
Color	Uniform milky white or milky yellow	With proper color	Take the appropriate amount of samples and place them in a dry and clean white plate (porcelain plate or similar container), observe the color and texture state under natural light. After mixing, smell and rinse mouth with warm water, and taste the samples.
Taste and aroma	With pure milk flavor and aroma	With proper taste and aroma	
State	Uniform drying Powder		

3.3 Physical and chemical indexes: shall conform to the provisions in Table 2.

Table 2: Physical and Chemical Indexes

Item	Index	Testing Method	
Protein /(g/100g) ≥	Cow Milk powder	34% of non-fat dairy solids ^a	GB 5009.5
	Modified cow milk powder	16.5	
	Goat milk powder	34% of non-fat dairy solids ^a	
	Modified goat milk powder	16.5	
	Yak milk powder	39% of non-fat dairy solids ^a	
	Modified yak milk powder	18.6	
	Camel milk powder	36% of non-fat dairy solids ^a	
	Modified camel milk powder	16.8	
	Donkey milk powder	18% of non-fat dairy solids ^a	
	Modified donkey milk powder	11.0	
	Horse milk powder	18% of non-fat dairy solids ^a	
	Modified horse milk powder	11.5	
Fat ^b /(g/100g) ≥	Milk powder	26.0	GB 5009.6
	Goat milk powder	26.0	
	Yak milk powder	33.0	
	Camel milk powder	28.0	
	Donkey milk powder	2.5	
	Horse milk powder	10.0	
Acidity of reconstituted milk/ (°T)	Cow Milk powder	≤18	GB 5009.239
	Goat milk powder	7~14	
	Yak milk powder	12.5 ~18	
	Camel milk powder	≤24	
	Donkey milk powder	≤6	
	Horse milk powder	≤10	
Impurity /(mg/kg)	Milk powder	≤16	GB 5413.30
Water content /(g/100g) ≤		5.0	GB 5009.3

^a Non-fat dairy solids (%) = 100% - fat (%) - water (%).

^b Only applicable to whole milk powder.

3.4 Limits for contaminants and mycotoxin

3.4.1 Limits for contaminants shall conform to GB 2762.

3.4.2 Limits for mycotoxin shall conform to GB 2761.

3.5 Microbial limits

3.5.1 Limits for pathogenic bacteria shall conform to GB 29921.

3.5.2 Microbial limits shall also comply with the provisions of table 3.

Table 3: Microbial Limits

Item	Sampling Plan ^a and Limit				Testing Method
	n	c	m	M	
Total plate count ^{b/} (CFU/g)	5	2	5.0x10 ⁴	2.0x10 ⁵	GB 4789.2
Coliform / (CFU/g)	5	1	10	100	GB 4789.3

^a Sampling and processing of samples shall be carried out according to GB 4789.1 and GB 4789.18.
^b Not applicable to products added with active bacteria (aerobic and facultative anaerobic probiotics) [if live bacteria are added, the number of live bacteria in the product shall be $\geq 10^6$ CFU/g.]

3.6 Food Additives and Nutrition Fortifiers

3.6.1 The use of food additives shall conform to GB 2760.

3.6.2 The use of food nutrition fortifiers shall conform to GB 14880.

4. Other

4.1 Products shall be marked with “milk powder” or “modified milk powder.”

4.2 Cow milk powder can be identified as “milk powder” or “powdered milk.” Milk powder from other animal sources shall be marked with animal varieties, such as “goat milk powder” or “powdered goat milk.”

4.3 Modified cow milk powder can be identified as “modified milk powder” or “modified powdered milk.” Modified milk powder from other animal sources shall be marked with animal varieties, such as “modified goat milk powder” or “modified powdered goat milk.”