



National Standard of the People's Republic of China

GB 11674-2010

**National Food Safety Standard
Whey Powder and Whey Protein Powder**

食品安全国家标准

乳清粉和乳清蛋白粉

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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 Standard 289-1995 (Revised in 2003, Amended 2006 - Standard for Whey Powders), however, it is not equivalent to Codex Standard 289-1995 (Revision 2003, Amendment 2006) in conformity.

This standard replaces GB 11674-2005 Hygiene Standard of Whey Powder.

Compared with GB 11674-2005, the following items are revised in this standard:

- The name of this standard has been changed to the following “Whey Powder and Whey Protein Powder”;
- The description of “Scope” has been revised;
- “Terms and definitions” have been added for “Whey Powder and Whey Protein”;
- The product category in “Physicochemical index” has been changed to demineralized whey powder; non-demineralized whey powder and whey protein powder;
- The index of “lactose” has been added;
- The index of “fat” has been deleted;
- The index of “acidity” (as lactic acid) has been deleted;
- The index of “Fe” has been deleted;
- The “maximum limits for contaminants” has been directly referencing GB 2762;
- The “limit of mycotoxins” has been directly referencing GB 2761;
- The index of “veterinary drug residue” has been deleted;
- The representation of “microbiological index” has been modified;
- The requirements on use of nutrition fortifiers are added.

This standard will replace the following editions released in the past:

- GB 16774-1989, GB11674-2005

National Food Safety Standard

Whey Powder and Whey Protein Powder

1. Scope

This Standard applies to demineralized Whey Powder, non-demineralized whey powder, Whey protein concentrate (powder) and whey protein isolate (powder), etc.

2. Normative references

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

1.1 Whey

Whey is a fluid separated from the curd after the clotting of the milk during the processing and production of cheese and casein by rennet, acidification or membrane filtration.

1.2 Whey Powders

Whey powders are powdered products by evaporating and drying the whey.

1.2.1 Demineralized Whey Powder

Demineralized Whey Powder are powdered products by the process of demineralizing, evaporating and drying the whey.

1.2.2 Non-demineralized Whey Powder

Non-demineralized whey powder are powdered products by the process of evaporating and drying the whey without demineralizing.

1.3 Whey Protein Powders

Whey protein powders are powdered products made of the whey, through the process of ultra-filtration and concentration and dehydration, with protein content more than 25%.

4. Technical Requirements

4.1 Requirements of raw material

4.1.1 Whey: whey obtained from raw milk produced according to Raw Milk Standard GB 19301.

4.1.2 Other materials: should comply with the corresponding hygiene standard and related regulations.

4.2 Sensory requirements: should meet the requirement in Table 1.

Table 1 Sensory requirements

Item	Requirements	Testing method
Color	Color with good uniformity	Take proper amount of samples in to 50ml breaker, and observe the color and texture under natural light. Smell it and taste after rinsing the mouth with warm water.
Taste and flavor	The flavor and taste of whey powder should be appropriately consistent to characteristic of product, without unpleasant taste	
Texture	The powder should be dry and with good uniformity, without clotting, and without alien objects.	

4.3 Physicochemical index: should meet the requirement in Table 2.

Table 2 Physicochemical index

Item	Index			Testing method
	Demineralized whey powder	Non-demineralized whey powder	Whey protein powders	
Protein (g/100g)	10.0	7.0	25.0	GB 5009.5
Ash(g/100g)	3.0	15.0	9.0	GB 5009.4
Lactose(g/100g)	61.0		-	GB 5413.5
Moisture (g/100g)	5.0		6.0	GB 5009.3

4.4 Limits of Contaminants

The contaminant limits should comply with GB 2762.

4.5 Limits of Mycotoxins

The mycotoxin limits should comply with GB 2761.

4.6 Limits of Microorganism

The microorganism limits should comply with requirements of Table 3.

Table 3 Limit of microorganism

Item	Sampling plan ^a and Requirements (indicated by CFU/g if not specified)				Testing method
	n	c	m	M	
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.					

4.7 Food Additives and Nutrition Fortifiers

- 4.7.1 The use of food additives and nutrition fortifiers should comply with related standards and relevant regulations.
- 4.7.2 The use of food additives and nutrition fortifiers should comply with GB2760 and GB14880 respectively.