

CODEX STANDARD FOR WHEY POWDERS

CODEX STAN A-15-1995, Rev. 1-2003

1. SCOPE

This Standard applies to Whey Powder and Acid Whey Powder, intended for direct consumption or further processing, in conformity with the description in Section 2 of this Standard.

2. DESCRIPTION

Whey powders are milk products obtained by drying whey or acid whey.

Whey is the fluid milk product obtained during the manufacture of cheese, casein or similar products by separation from the curd after coagulation of milk and/or of products obtained from milk. Coagulation is obtained through the action of, principally, rennet type enzymes.

Acid whey is the fluid milk product obtained during the manufacture of cheese, casein or similar products by separation from the curd after coagulation of milk and/or of products obtained from milk. Coagulation is obtained, principally, by acidification.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 RAW MATERIALS

Whey or acid whey.

3.2 PERMITTED INGREDIENTS

Seed lactose ¹ in the manufacture of pre-crystallized whey powder.

3.3 COMPOSITION

Whey Powder:

Criteria:	Minimum content	Reference content	Maximum content
Lactose ^(a)	n.s.	61.0% (m/m)	n.s.
Milk protein ^(b)	10.0% (m/m)	n.s.	n.s.
Milk fat	n.s.	2.0% (m/m)	n.s.
Water ^(c)	n.s.	n.s.	5.0% (m/m)
Ash	n.s.	n.s.	9.5% (m/m)
pH (in 10% solution)*	5.1	n.s.	n.s.

* or titratable acidity (calculated as lactic acid) <0.35%

Acid whey powder:

Criteria:	Minimum content	Reference content	Maximum content
Lactose ^(a)	n.s.	61.0% (m/m)	n.s.
Milk protein ^(b)	7.0% (m/m)	n.s.	n.s.
Milk fat	n.s.	2.0% (m/m)	n.s.
Water ^(c)	n.s.	n.s.	4.5% (m/m)
Ash	n.s.	n.s.	15.0% (m/m)
pH (in 10% solution) *	n.s.	n.s.	5.1

* or titratable acidity (calculated as lactic acid) ≥0.35%

(a) Although the products may contain both anhydrous lactose and lactose monohydrate, the lactose content is expressed as anhydrous lactose. 100 parts of lactose monohydrate contain 95 parts of anhydrous lactose.

(b) Protein content is 6.38 multiplied by the total Kjeldahl nitrogen determined.

(c) The water content does not include water of crystallization of the lactose.

¹ For specification, see relevant Codex Standard

In accordance with the provision of section 4.3.3 of the General Standard for the Use of Dairy Terms, whey powders may be modified in composition to meet the desired end-product composition, for instance, by neutralization or demineralization. However, compositional modifications beyond the minima or maxima specified above for milk protein and water are not considered to be in compliance with the Section 4.3.3.

4. FOOD ADDITIVES

Only those additives listed below may be used within the limits specified².

INS No	Name of Food Additive	Maximum Level
<i>Stabilizers</i>		
331	Sodium citrates	Limited by GMP
332	Potassium citrates	
500	Sodium carbonates	
501	Potassium carbonates	
<i>Firming agents</i>		
508	Potassium chloride	Limited by GMP
509	Calcium chloride	
<i>Acidity regulators</i>		
339	Sodium phosphates	10 g/kg singly or in combination expressed as P ₂ O ₅
340	Potassium phosphates	
450	Diphosphates	
451	Triphosphates	
452	Polyphosphates	
524	Sodium hydroxide	Limited by GMP
525	Potassium hydroxide	
526	Calcium hydroxide	
<i>Anti-caking agents</i>		
170(i)	Calcium carbonate	10 g/kg singly or in combination
341(iii)	Tricalcium orthophosphate	
343(iii)	Trimagnesium orthophosphate	
460	Cellulose	
504(i)	Magnesium carbonate	
530	Magnesium oxide	
551	Silicon dioxide, amorphous	
552	Calcium silicate	
553	Magnesium silicates	
554	Sodium aluminosilicate	
556	Calcium aluminium silicate	
559	Aluminium silicate	
1442	Hydroxypropyl distarch phosphate	

5. CONTAMINANTS

The products covered by this Standard shall comply with the maximum limits for contaminants and the maximum residue limits for pesticides and veterinary drugs established by the Codex Alimentarius Commission.

² Benzoyl peroxide will be included in the Stanadrd subject to satisfactory evaluation by JECFA in 2004

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate Sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev.3-1997, *Codex Alimentarius*, Vol.1B), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 From raw material production to the point of consumption, the products covered by this standard should be subject to a combination of control measures, which may include, for example, pasteurization, and these should be shown to achieve the appropriate level of public health protection.

6.3 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997, *Codex Alimentarius*, Vol.1B).

7. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1 - 1985, Rev.1-1991; *Codex Alimentarius*, Volume 1A) and the General Standard for the Use of Dairy Terms (CODEX STAN 206-1999), the following specific provisions apply:

7.1 NAME OF THE FOOD

The name of the food shall be:

Whey powder | according to the definitions in Section 2 and compositions

Acid whey powder | as specified in Section 3.3.

The designation of products in which the fat and/or lactose contents are below or above the reference content levels specified in Section 3.3 of this Standard shall be accompanied by an appropriate qualification describing the modification made or the lactose and/or fat content, respectively, either as part of the name or in a prominent position in the same field of vision.

The term “sweet” may accompany the name of whey powder, provided that the whey powder meets the following compositional criteria:

minimum lactose:	65%
minimum protein:	11%
maximum ash:	8.5%
pH (10% solution)*:	>6

* or titratable acidity of maximum 0.16% (calculated as lactic acid)

7.2 LABELLING OF NON-RETAIL CONTAINERS

Information required in Section 7 of this Standard and Sections 4.1 to 4.8 of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1 - 1985, Rev.1-1991; *Codex Alimentarius*, Volume 1A) and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such mark is clearly identifiable with the accompanying documents.

8. METHODS OF SAMPLING AND ANALYSIS

See *Codex Alimentarius*, Vol. 13.