

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

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Agenda Item 4(f)

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON MILK AND MILK PRODUCTS

Fourth Session

Wellington, New Zealand, 28 February – 3 March 2000

PROPOSED DRAFT REVISED STANDARD FOR WHEY POWDERS

REVIEW OF THE STANDARD FOR WHEY POWDERS (A-15-1995)

(Prepared by the International Dairy Federation)

Governments and interested international organizations are invited to comment on the attached proposed draft revised standard for Whey Powders at Step 3. Comments should be sent to:

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with a copy to the Secretary, Codex Alimentarius Commission, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy **not later than 25 January 2000.**

The Proposed Draft Standard will be considered at Step 4 by the Committee at its 4th Session.

INTRODUCTION

At the 3rd Session of the Codex Committee on Milk and Milk Products (CCMMP; May 1998) the Committee agreed to proceed with a revision of the Standard for Whey Powders (ALINORM 99/11, para. 98). The Codex Alimentarius Commission at its 23rd Session approved it as new work (ALINORM 99/37, Appendix VII).

The IDF has reviewed the Standard, mainly to align it with the format and general texts agreed to be used in other Codex Standards for milk products, and to update the additive provisions.

REVISION OF THE STANDARD

A Proposed Draft Revised Standard for Whey Powders is attached this document.

The changes made are summarized below.

“Food grade”: The phrase has been removed throughout the standard. It is considered unnecessary since Codex standards are food standards.

- Preamble: The standard text has replaced the existing wording.
- Scope: The standard text has replaced the existing wording. The notion that excludes neutralized or demineralized whey powders has been removed, as such modified products are recommended to be addressed generally in the composition section.
- Description: Whey powders:
The words “milk products” have been inserted. As maximum fat is specified in the composition section, there is no need to specify removal of milkfat in the description. Reference to the way in which the drying is carried out (i.e. “spray” and “roller”) has been removed. The description has been subject to an editorial review as well.
- Whey and Acid Whey:
The specified lists of raw materials have been replaced by a general reference to products obtained from milk to align the approach with other standards. The specification of the types of acids used for obtaining acid whey seems not to be needed and has been removed. The descriptions have been subject to an editorial review as well.
- Raw materials: The phrase “edible quality” is regarded superfluous and has been removed. Also the phrase “derived from milk” has been removed since the origin of whey is specified in the descriptions themselves.
- Permitted ingredients: The phrase “as a processing aid” has been removed.
- Composition: Besides editorial changes, a statement referring to the application of section 4.3.3 of the General Standard for the Use of Dairy Terms has been inserted (includes reference to demineralized whey powders). Also, a footnote to the maximum water content has been inserted to align the Standard with CODEX STAN 207-1999.
Further, the notation in section 8 concerning protein has been relocated as a footnote to the criteria in section 3.3
- Food Additives: Relevant additives included in CODEX STAN 207-1999 have been inserted. The list is subject to a further review by the IDF.
- Contaminants: Only the maximum level for lead is relevant for food safety purposes. The other specifications (copper and iron) have been relocated in the Appendix.
- Hygiene: The standard text has replaced the existing wording.
- Labelling
preamble: The standard text has replaced the existing wording.
- Name of the food: The provision concerning the origin of milk has been removed (now covered by CODEX STAN 206-1999). The labelling provision concerning “spray” and “roller” has been removed.
- Labelling of non-retail containers: The standard text has replaced the existing wording.
- Methods: List of methods has been replaced by a reference Vol. 13.
- Appendix: Contains the information provided in the existing Appendix (other quality factors), processing aids, and relocated elements from section 5 (contaminants). Also, cross-reference to Vol. 13 has been inserted.

Note: Provisions for declaring the milkfat content are not relevant for this product.

ADDITIONAL ISSUES

During the review, the IDF has identified the following issues that the CCMMP may consider relevant to consider in addition to the above:

1. Maximum levels of relevant colours with numerical ADI's specified. These may have been used in the manufacture of some cheeses and residual amounts may have been carried over to the whey.
2. Maximum levels of nitrates. These may have been used in the manufacture of some cheeses and residual amounts may have been carried over to the whey.
3. The need for the information presented in the Appendix to the revised draft standard.

The IDF intends to provide recommendations on the above issues at a later stage.

PROPOSED DRAFT REVISED STANDARD FOR WHEY POWDERS (A-15)¹

The Annex to this Standard contains provisions which are not intended to be applied within the meaning of the acceptance provisions of Section 4.A.(I)(b) of the General Principles of the Codex Alimentarius.

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 milk product obtained by separation from the curd after coagulation of milk and/or of products obtained from milk. Coagulation is obtained, principally, with acids

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 RAW MATERIALS

Whey or acid whey.

3.2 PERMITTED INGREDIENTS

Seed lactose* in the manufacture of pre-crystallized (non-hygroscopic) whey powder.

* For specification, see relevant Codex Standard.

3.3 COMPOSITION

	Whey powder	Acid whey powder
Minimum lactose ^(a)	61.0 % m/m	61.0% m/m
Minimum milk protein ^(b)	11.0% m/m	10.0% m/m
Maximum milkfat	2.0% m/m	2.0% m/m
Maximum water ^(c)	5.0% m/m	4.5% m/m
Maximum ash	9.5% m/m	15.0% m/m
pH (in 10 % solution)	> 5.1	<= 5.1

- (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.

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, neutralization or demineralization. However, compositional modifications beyond the minima or maxima specified above for lactose, milk protein, milkfat and water are not considered to be in compliance with the Section 4.3.3.

¹ Comments are being sought at Step 3. The Proposed Draft Revised Standard will be considered by the 4th Session of the Committee at Step 4.

4. FOOD ADDITIVES

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

INS No	Name of food additive	Maximum level
Stabilizers		
331	Sodium citrates	Limited by GMP
332	Potassium citrates	
500	Sodium carbonates	
501	Potassium carbonates	
Firming Agents		
508	Potassium chloride	Limited by GMP
509	Calcium chloride	Limited by GMP
Anti-caking agents		
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 Distach Phosphate	

5. CONTAMINANTS

5.1 HEAVY METALS

The products covered by this Standard shall comply with the maximum limits established by the Codex Alimentarius Commission.

In particular, the following maximum limits apply:

Metal	Maximum Level
Lead	1 mg/kg

5.2 PESTICIDE RESIDUES

The products covered by this Standard shall comply with those maximum residues limits established by the Codex Alimentarius Commission.

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), 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).

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 Acid whey powder	According to the definitions in section 2 and compositions as specified in section 3.3.
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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.

APPENDIX

INFORMATION ON USUAL PATTERNS OF MANUFACTURING WHEY POWDERS

This text below is intended for voluntary application by commercial partners and not for application by governments.

1. Other Quality Factors

1.1 Physical appearance

Uniform colour corresponding to that of the whey from which the powder is derived. Free from lumps that does not break up under moderate pressure.

1.2 Flavour and odour

Free from off flavours and odours

2. Processing aids

507 Hydrochloric acid

3. Other Contaminants

Heavy metals

The following limits apply:

Metal	Maximum limit
Copper	5 mg/kg
Iron	20 mg/kg (50 mg/kg in roller dried powder)

5. Additional methods of analysis

Appropriate methods for the determination of the content of copper and iron are provided in *Codex Alimentarius*, Vol. 13.