



Technews

**National Dairy Development Board
For Efficient Dairy Plant Operation**

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CODEX STANDARDS RELEVANT TO DAIRY INDUSTRY

This bulletin includes technical information based on latest developments on products, systems, techniques etc. reported in journals, companies' leaflets and books and based on studies and experience. The technical information in different issues is on different areas of plant operation. It is hoped that the information contained herein will be useful to readers.

The theme of information in this issue is **Codex Standards Relevant to Dairy Industry**. It may be understood that the information given here is by no means complete.

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1. INTRODUCTION

The Codex standards, codes of practice and guidelines are recognized as reference points in international trade by the World Trade Organization (WTO). Codex standards and other related texts are developed by the different Committees of the Codex Alimentarius Commission (CAC) through a specific procedure and finally approved by the Commission in its sessions. As described in *Technews* Issue 22 (September-October 1999), the Codex standards are developed through an 8-step procedure. For final adoption, the Codex Committees may submit to the Commission draft standards at Step 8, Step 5/8 (which means that Steps 6 and 7 are recommended to be omitted); or at Step 5 Accelerated where there is urgency, in which case the final endorsement is made at Step 5 itself. The proposed standards are also submitted to the Commission at regular Step 5, at which the Commission may adopt them provisionally as draft standards and these would then be further considered by the respective Committees.

The important decisions of the 30th Session of the Commission (Geneva, 2-7 July 2007) were reported in *Technews* Issue 69 (July-August 2007).

The 31st Session of the Commission was held in Rome during 30 June – 4 July 2008. The important decisions of the Commission, relevant to the dairy sector, are presented in this issue.

2. NEW STANDARDS ADOPTED

The Codex Alimentarius Commission endorsed several standards and related texts at Step 8, 5/8 or 5 Accelerated of the Codex step procedure, as proposed by different Codex Committees. These standards have now become applicable. Such standards and related texts important for dairy industry are listed below along with their salient features.

a) Model Export Certificate for Milk and Milk Products (ALINORM 08/31/11, Appendix III)

The Model Export Certificate for Milk and Milk Products is intended to provide a harmonized format for milk and milk products that can be used to attest to attributes of products presented for international trade. Some of the features of the model certificate are provided below:

- Date of manufacturing is to be indicated when required by the importing country.
- Date of minimum durability is to be indicated, when required by the importing country.
- Attestation, among others, includes the following:
 - The product or batches of products originate from an establishment that is in good regulatory standing with the Competent Authority in the exporting country; and
 - The products were processed and otherwise handled under a HACCP System, where appropriate, and that the food complies with the hygiene requirements of the country (to be agreed upon with the importing country) and/or the hygienic provisions of the *Code of Hygienic Practice for Milk and Milk Products* (CAC/RCP 57-2004).

The certificate is not intended to deal with matters of animal and plant health unless directly related to food safety or suitability.

b) Food Additive Listings of the *Standard for Fermented Milks* (CODEX STAN 243-2003) (ALINORM 08/31/11, Appendix VI)

The food additives listings relate to fermented milks (including drinks based on fermented milk). Specific food additives of the different functional classes have been permitted as follows:

- Flavoured fermented milks (heat treated after fermentation or not): Colours, sweeteners, emulsifiers, flavour enhancers, acids, acidity regulators, stabilizers, thickeners, and packaging gases; and preservatives (only in flavoured fermented milks, heat treated after fermentation).

- Plain fermented milks: Stabilizers and thickeners; only for reconstitution and recombination and only if permitted by national legislation in the country of sale to the final consumer.
- Plain fermented milks (heat treated after fermentation): Acids, acidity regulators, stabilizers, thickeners, and packaging gases.

c) Maximum Levels for Annatto Extracts in Codex Standards for Milk and Milk Products, Including Consequential Changes to the Provision for Beta-Carotene (Vegetable) (ALINORM 08/31/11, Appendix II)

The levels of annatto extracts and beta-carotene now permitted for use in milk products are provided in the table below:

Product	Maximum Level, mg/kg		
	Annatto Extract - Bixin based	Annatto Extract - Norbixin based	Beta-Carotene
Unripened Cheese, Including Fresh Cheese	-	25	-
Dairy Fat Spreads	20	-	-
Cheese (in general)	-	50	-
Named Variety Processed Cheese and Spreadable Processed Cheese	60	25	600
Processed Cheese and Spreadable Processed Cheese	60	25	600
Processed Cheese Preparations	80	25	600
Butter	20	-	-
Individual Cheeses : Cheddar, Danbo, Edam, Gouda, Havarti, Samsö, Emmental, Tilsiter, Saint-Paulin, Provolone, Coloummier, Cream, Cheese, Camembert, Brie	-	25	-

d) Code of Hygienic Practice for Powdered Formulae for Infants and Young Children (ALINORM 08/31/13, Appendix II)

The Commission adopted the Code except its Annex II.

The objective of this Code is to provide practical guidance and recommendations on the hygienic manufacture of Powdered Formulae (PF) and on the subsequent hygienic preparation, handling and use of reconstituted formulae. The Code supplements the *Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969)* and the *Code of Hygienic Practice for Milk and Milk Products (CAC/RCP 57-2004)*, with an emphasis on the control of microbiological hazards, in particular *Salmonella* and *E. sakazakii*.

The products included under the PF are infant formulae, follow-up formulae, formulae for special medical purposes intended for infants and which serve as the sole source of nutrition, human milk fortifiers and powdered formulae for special medical purposes for infants and young children intended to partially replace or supplement breast milk, infant formulae or follow-up formulae.

The Annex I of the Code provides microbiological criteria for pathogens (*Salmonella* and *E. sakazakii*) and process hygiene (mesophilic aerobic bacteria and enterobacteriaceae) for powdered infant formulae, formula for special medical purposes and human milk fortifiers. The Annex III provides guidance for the establishment of monitoring programs for *Salmonella*, *E. sakazakii* and other *Enterobacteriaceae* in high hygiene processing areas and in powdered formula preparation units.

The Annex II of the Code is on microbiological criteria for follow-up formulae and is under development by the Codex Committee on Food Hygiene.

e) Guideline for the Validation of Food Safety Control measures (ALINORM 08/31/13, Appendix III)

These Guidelines present information on the concept and nature of validation, tasks prior to validation, the validation process, and the need for re-validation. They also attempt to provide the difference between validation, monitoring and verification.

The Guidelines apply to validation of control measures at any stage of the food chain. They are intended as guidance to industry and governments on the validation of individual control measures, a limited combination of control measures, or sets of control measure combinations forming a food safety control system (e.g. HACCP, GHP).

The Guidelines emphasize that the food business operator must ensure that the conditions (e.g. raw materials, relevant hazards, combinations of control measures, intended use, and distribution and consumption patterns) in their particular operation do not differ from the conditions under which the control measures were previously validated.

It is also recognized in the Guidelines that the control measures that are of such a nature that it is not feasible to determine their quantitative effect on specific hazards may not always be considered priority for validation. Examples of such control measures include air locks to minimize cross contamination, hand washing procedures, and several other basic hygiene practices described in the *International Recommended Code of Practice: General Principles of Food Hygiene (CAC/RCP 1-1969)*.

f) Annex II on the Guidance on Microbiological Risk Management Metrics to the Principles and Guidelines for the Conduct of Microbiological Risk Management (ALINORM 08/31/13, Appendix IV)

This annex provides guidance on the concepts and principles for the development and implementation of food safety systems based on

microbiological risk management metrics, also including Food Safety Objective, Performance Objective and Performance Criteria (refer *Technews* issue 58, September-October 2005). It provides guidance on approaches to the establishment of microbiological risk management metrics to more objectively and transparently relate the level of stringency of control measures or entire food safety control systems to the required level of public health protection.

It is, however, recognized in this document that recourse to microbiological risk management metrics is not always the most appropriate approach to address all food safety management questions. In some cases where a full risk assessment is not available, sound scientific information may be entirely valid to implement control measures without directly linking their impact to the public health outcomes.

g) Advisory List of Nutrient Compounds for Use in Foods for Special Dietary Uses Intended for Infants and Young children (ALINORM 08/31/26, Appendix IV)

It provides a list of nutrient compounds, which may be used for nutritional purposes in foods for special dietary uses intended for infants and young children in accordance with the specified criteria and conditions of use identified in this standard and other criteria for their use provided in the respective commodity standards. In addition, the sources from which the nutrient compound is produced may exclude the use of specific substances where religious or other specific dietary restrictions apply.

h) Amendment to the General Standard for the Labelling of Prepackaged Foods: Quantitative Declaration of Ingredients (ALINORM 08/31/22, Appendix IV)

The amendment makes it necessary that the ingoing percentage of an ingredient be disclosed for foods sold as a mixture when the ingredient:

- is emphasized as present on the label of a food through words/pictures/graphics; or,
- is not within the name of the food but is essential to characterize the food and is expected to be present in the food by consumers.

There are specific exceptions indicated to this requirement.

i) Guidelines for the Use of Flavourings (ALINORM 08/31/12, Appendix X): This document is intended to provide principles for the safe use of the components of flavourings. The 'flavourings' have been classified in three broad categories: i) Flavouring substances, further categorized as 'natural' and 'synthetic'; ii) Natural flavouring complexes; and iii) Smoke flavourings. The guideline also provides principles for the establishment of practices that do not mislead the consumer.

j) Food Additive Provisions of the General Standard for Food Additives (GSFA) (ALINORM 08/31/12, Appendix VII)

Several food additive provisions allowing use of 20 food additives selectively in different dairy products have been adopted.

k) Appendix to the Guidelines on the Judgement of Equivalence of Sanitary Measures Associated with Food Inspection and Certification Systems

The Commission had earlier adopted the *Guidelines on the Judgement of Equivalence of Sanitary Measures Associated with Food Inspection and Certification Systems (CAC/GL 53-2003)* [refer Technews issue 44, May-July 2003]. The Commission now adopted an Appendix to these Guidelines.

The Guidelines include general principles and guidance on context, objective basis of comparison, general procedure and judgment in relation to equivalence determination. The Appendix now adopted provides additional guidance to assist exporting and importing countries in undertaking an equivalence determination of sanitary measures. It appropriately includes guidance on:

- preliminary considerations relating to undertaking an equivalence determination; and,
- undertaking an equivalence determination.

l) Maximum Residue Limits (MRLs) for Pesticides (ALINORM 08/31/24, Appendix III)

The MRLs for pesticides, proposed by the Codex Committee on Pesticide Residues (CCPR), that have been endorsed, are given below:

Pesticide	Product	Maximum Residue Level (ppm)
Fenitrothion	Milk	0.01 (*)
Triadimefon	Milk	0.01 (*)
Flusilazole	Milk	0.05 F
Clofentezine	Milk	0.05 (*)
Cyfluthrin & Beta-cyfluthrin	Milk	0.04 F
Propiconazole	Milk	0.01 (*)
Cyromazine	Milk	0.01
Aminopyralid	Milk	0.02
Difenoconazole	Milk	0.005 (*)
Dimethomorph	Milk	0.01 (*)
Pyrimethanil	Milk	0.01
Triadimenol	Milk	0.01 (*) F
* = At or about the limit of determination		
F = Residue is fat soluble		

m) Maximum Residue Limits (MRLs) for Veterinary drugs (ALINORM 08/31/31, Appendix II)

The MRLs for veterinary drug colistin in milk (Cattle milk – 50 ppb; Sheep milk – 50 ppb) have been endorsed.

3. STANDARDS ADVANCED TO STEP 5 FOR FURTHER CONSIDERATION

Draft Amendment to the Codex Standard for Fermented Milks (CODEX STAN 243-2003), Pertaining to Drinks Based on Fermented Milk (ALINORM 08/31/30, Appendix IV)

The Codex Standard for Fermented Milks (CODEX STAN 243-2003) does not include the drinks based on fermented milks. Therefore, this standard is being amended to include necessary provisions for fermented milk drinks.

According to the adopted draft provisions, drinks based on fermented milk are milk products obtained by mixing fermented milk with potable water, with or without the addition of other ingredients such as whey, other non-dairy ingredients, and flavourings. It is proposed that they should contain a minimum of 40% (m/m) fermented milk and microorganisms other than those constituting the specific starter cultures may be added into these products.

4. STANDARDS REVOKED

a) Food Additive Provisions of the GSFA (ALINORM 08/31/12, Appendix VIII)

The Commission revoked certain food additive provisions in the GSFA relating to use of caramel III (ammonia process) in fermented milks (plain) and renneted milks (plain); and caramel IV (sulphite ammonia process) in clotted cream (plain).

b) Codex General Requirements for Natural Flavourings (CAC/GL 29 – 1985)

This has now been replaced with the Guidelines for the Use of Flavourings (ALINORM 08/31/12, Appendix X) adopted by the Commission.

c) Recommended International Code of Hygienic Practice for Foods for Infants and Children (CAC/RCP 21 – 1979)

This has now been replaced with the Code of Hygienic Practice for Powdered Formulae for Infants and Young Children (ALINORM 08/31/13, Appendix II) adopted by the Commission.

d) Maximum Residue Levels (MRLs) of Pesticides (ALINORM 08/31/24, Appendix V)

The following MRLs for milk and milk products have been revoked:

Pesticide	Product	Maximum Residue Level (ppm)
Triazophos	Cattle milk	0.01 (*)
Clofentezine	Cattle milk	0.01 (*)
Cyfluthrin / Beta – Cyfluthrin	Cattle milk	0.01 F
Flusilazole	Cattle milk	0.01 (*)
* = At or about the limit of determination F = Residue is fat soluble		

5. OTHER RELEVANT ISSUE

Use of Lactoperoxidase System in Milk and Milk Products for International Trade - Referred to the CAC by the CCFH (ALINORM 08/31/13, Para 179)

The Commission considered the issue related to removing the restriction on the use of Lactoperoxidase System (LPS) in milk and milk products for international trade (refer *Technews* issue 70, September-October 2007). Due to time constraint, discussions could not

be completed, and hence the Commission postponed further discussion on this issue until its next session in 2009.

- The report of the 31st Session of the CAC can be accessed at Codex website <http://www.codexalimentarius.net>
- The next (32nd) Session of the CAC is tentatively scheduled during 29 June – 4 July 2009 in Rome.

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NEWS SECTION

Indian Food Laws

Draft Indian Standard – Good Manufacturing Practices (GMP) – Requirements for Organizations in the Food Processing Sector of the Bureau of Indian Standards (BIS): The BIS is developing a document to provide guidance on the implementation of GMP for the food processing sector. The document also provides guidance on the establishment of a management structure necessary to effectively implement the GMP. When approved, the food processing plants can utilize it for GMP certification.

Codex Alimentarius Commission (CAC)

The period September – December 2008 features meetings of the following Codex Committees:

- Codex Committee on Nutrition and Foods for Special Dietary Uses, 3-7 November 2008, Cape Town, South Africa;

- Codex Committee on Asia, 17-21 November 2008, Denpasar, Indonesia; and
- Codex Committee on Food Import and Export Inspection and Certification Systems, 24-28 November 2008, Cebu, Philippines.

International Dairy Federation (IDF)

- **IDF has published the following Bulletin/Standards recently:**

- IDF Bulletin No.431/2008: Dioxin and PCB Levels in Milk;
- IDF 130/ISO 8260: Milk and milk products – Determination of organochlorine pesticides and polychlorobiphenyls – Method using capillary gas-liquid chromatography with electron-capture detection; and
- ISO 139/ISO 9831: Milk and milk products – Determination of the benzoic and sorbic acid contents.

For purchasing the IDF publications, the following may be contacted:

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- **The IDF World Dairy Summit 2008 would be held during 11-14 November 2008 in Mexico City, Mexico**

The technical programme of the summit includes the 'Forum of World Dairy Leaders' and a workshop on *Sampling and Analysis in the Dairy Chain – Challenges and Opportunities*, on 11 November,

and 3 parallel sessions of conferences daily during 12-14 November 2008.

The conferences would have the following themes:

- Dairy policies and economics
- Dairy industry economic perspective
- Nutrition and health
- Animal health
- Primary production
- Marketing including nutrimarketing
- Dairy science and technology
- Environment

The Summit is an open event and can be attended by any interested person by paying the specified registration fee directly to the summit organizers. More details of the Summit are available on the website <http://www.wds2008mexico.com>.

The IDF brochure '*Final Announcement & Registration – IDF World Dairy Summit 2008*' which includes the details of the Summit has also been put on the NDDDB website <http://www.nddb.coop>.



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