codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

JOINT OFFICE: Viale delle Terme di Caracalla 00100 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

ALINORM 05/28/12
May 2005

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Twenty-eighth Session
Rome, Italy, 4-9 July 2005

REPORT OF THE 37th SESSION OF THE CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

The Hague, The Netherlands
25 - 29 April 2005

Note: This report includes Codex Circular Letter CL 2005/22-FAC

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CX 4/30.2 **CL 2005/22-FAC**
May 2005

TO:	Codex Contact Points Interested International Organizations
FROM:	Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme Viale delle Terme di Caracalla, 00100 Rome, Italy
SUBJECT:	**Distribution of the Report of the Thirty-seventh Session of the Codex Committee on Food Additives and Contaminants (ALINORM 05/28/12)**

The report of the Thirty-seventh Session of the Codex Committee on Food Additives and Contaminants will be considered by the 28th Session of the Codex Alimentarius Commission (Rome, Italy, 4 – 9 July 2005).

MATTERS FOR ADOPTION BY THE 28TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION

DRAFT AND PROPOSED DRAFT STANDARDS AND RELATED TEXTS AT STEPS 8 OR 5/8 OF THE UNIFORM PROCEDURE, RESPECTIVELY

1. Draft and proposed draft food additive provisions of the General Standard for Food Additives (GSFA) at Step 8 and 5/8, respectively (para. 83 and Appendix X);

2. Proposed draft amendments to the International Numbering System for Food Additives at Step 5/8 (para. 88 and Appendix XIII);

3. Specifications for the Identity and Purity of Food Additives arising from the 63rd JECFA meeting at Step 5/8 (para. 114 and Appendix XVI)

4. Proposed draft revision of the Preamble of the General Standard for Contaminants and Toxins in Foods (GSCTF) (N09-2004) at Step 5/8 (para. 128 and Appendix XIX)**;**

5. Draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts at Step 8 (para. 132 and Appendix XXI);

6. Draft Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods at Step 8 (para. 166 and Appendix XXV);

7. Draft Maximum Levels for cadmium in wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetables at Step 8 (para. 175 and Appendix XXVI).

Governments wishing to propose amendments or to comment on the above texts should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (at Step 8 or 5/8) (Codex Alimentarius Commission Procedural Manual, Fourteenth Edition) to the Secretary, Codex Alimentarius Commission, Viale delle Terme di Caracalla, 00100 Rome, Italy (telefax: +39.06.5705.4593; e-mail: codex@fao.org (***preferably***)) **no later than 15 June 2005.**

PROPOSED DRAFT STANDARDS AND RELATED TEXTS AT STEP 5 OF THE UNIFORM PROCEDURE

8. Proposed draft revised Preamble of the GSFA, including the diagram (para. 64 and Appendix VII)**;**

9. Proposed draft Maximum Level for Total Aflatoxins in unprocessed almonds, hazelnuts and pistachios (para. 141 and Appendix XXII);

10. Proposed draft Maximum Levels for Cadmium in marine bivalve molluscs (excluding oysters and scallops) and in cephalopods (without viscera) and in polished rice (para. 175 and Appendix XXVI).

Governments wishing to propose amendments or to comment regarding the implications which the above texts or any provisions thereof may have for their economic interests should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (at Step 5) (Codex Alimentarius Commission Procedural Manual, Fourteenth Edition) to the Secretary, Codex Alimentarius Commission, Viale delle Terme di Caracalla, 00100 Rome, Italy (telefax: +39.06.5705.4593; e-mail: codex@fao.org (***preferably***)) **no later than 15 June 2005.**

REQUEST FOR COMMENTS

11. Proposed draft Maximum Level for Total Aflatoxin in processed almonds, hazelnuts and pistachios (para. 141 and Appendix XXII);

12. Proposed draft Maximum Levels for Tin in canned food (other than beverages) and in canned beverages (para. 163 and Appendix XXIV);

13. Proposed draft Maximum Level for 3-MCPD in liquid condiments containing acid-HVP (excluding naturally fermented soya sauce) (para. 190 and Appendix XXVII).

Governments and interested international organizations in observer status with Codex wishing to submit comments on all aspects including possible implications which the proposed draft standards or any provisions thereof may have for their economic interest should do so in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (at Step 3) of the Codex Alimentarius Procedural Manual to the Netherlands Codex Contact Point, Ministry of Agriculture, Nature and Food Quality, P.O. Box 20401, 2500 E.K., The Hague, The Netherlands (Telefax: +31.70.378.6141; E-mail: info@codexalimentarius.nl - ***preferably***), with a copy to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, Viale delle Terme di Caracalla, 00100 Rome, Italy (Telefax: +39.06.5705.4593; E-mail: Codex@fao.org – ***preferably)*** **no later than 30 September 2005.**

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SUMMARY AND CONCLUSIONS

The Thirty-seventh Session of the Codex Committee on Food Additives and Contaminants reached the following conclusions:

MATTERS FOR ADOPTION/CONSIDERATION BY THE 28TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION:

Draft and Proposed draft Standards and Related Texts at Steps 8 or 5/8 of the Uniform Procedure, Respectively

The Committee forwarded:

- draft and proposed draft food additive provisions of the General Standard for Food Additives (GSFA) (para. 83 and Appendix X);
- proposed draft amendments to the International Numbering System for Food Additives (para. 88 and Appendix XIII);
- Specifications for the Identity and Purity of Food Additives arising from the 63rd JECFA meeting (para. 114 and Appendix XVI)
- proposed draft revision of the Preamble of the General Standard for Contaminants and Toxins in Foods (GSCTF) (N09-2004) (para. 128 and Appendix XIX);
- draft Code pf Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts (para. 132 and Appendix XXI);
- draft Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods (para. 166 and Appendix XXV);
- draft maximum levels for cadmium in wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetables (para. 175 and Appendix XXVI).

Proposed Draft Standards and Related Texts at Step 5 of the Uniform Procedure

The Committee forwarded:

- proposed draft revised Preamble of the GSFA, including the diagram (para. 64 and Appendix VII);
- proposed draft maximum level for total aflatoxins in unprocessed almonds, hazelnuts and pistachios (para. 141 and Appendix XXII);
- proposed draft maximum levels for cadmium in marine bivalve molluscs (excluding oysters and scallops) and in cephalopods (without viscera) and in polished rice (para. 175 and Appendix XXVI).

Proposals for New Work

The Committee agreed to submit the proposals for new work on:

- Revision of the "Class Names and International Numbering System for Food Additives - CAC/GL 36-2003" (para. 94 and Appendix XIV);
- Appendix to the Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts to address additional measures for the prevention and reduction of Aflatoxins in Brazil Nuts(para. 131 and Appendix XX);
- Code of Practice for the Reduction of Chloropropanols during the Production of acid-Hydrolyzed Vegetable Proteins (HVPs) and Products that Contain acid-HVPs (para. 183 and Appendix XXVII).

Other Matters for Consideration by the 28th Session of the Codex Alimentarius Commission

The Committee agreed :

- to forward the revised terms of reference of the Committee in response to the request of the last session of the Commission to review its terms of reference in relation to sampling plans (para. 9 and Appendix II);
- to express support to the definitions of risk analysis terms (para. 10);

- to request the Commission to amend Annex B (Food Category System) of the Codex General Standard for Food Additives by including coconut water as an example in the description of food category 14.1.2.1 (Fruit juices) (para. 11 and Appendix III);
- to recommend the Commission to revoke the provision in the GSFA for polydimethylsiloxane in food category 14.1.2 (fruit and vegetable juices) at 10 mg/kg which was adopted at Step 8 in 1999 (para. 49);
- to request the Commission to revoke the "General Principles for the Use of Food Additives", since the main content of the document was already included in the proposed draft revision of the Preamble of the GSFA and the document was out-of-date; and to recommend the Commission to delete the references to this document in the Codex Procedural Manual "Relations between Commodity Committees and General Committees – Food Additives and Contaminants" (para.55 and Appendix VI);
- to inform the Commission that in principle the maximum use levels for BHA, BHT, TBHQ, and Propyl Gallate in all Codex standards should be expressed on the fat or oil content, as appropriate, and on their combined use (para. 67);
- to request the Codex Secretariat to prepare a list of all draft (Step 6) food additive provisions for the double entries for the same additive in the same food category and provide this information to the Commission with a recommendation to discontinue work on these provisions (para. 78);
- to request the Commission to revoke a number of food additives provisions in the GSFA (para.83 and Appendix XI);
- to inform the Commission of discontinuation of work on a number of food additive draft and proposed draft food additive provisions (para. 83 and Appendix XII);
- to forward the terms of reference and background information for a Joint Expert Consultation to conduct a comprehensive assessment of use of active chlorine to the Commission for transmission to FAO and WHO, along with the terms of reference prepared by the CCFH (para. 108 and Appendix XV);
- to request the Commission to delete the maximum levels for lead in specific commodity Codex Standards for fruit juices and nectars and for processed meat products and to amend Schedule I of the GSCTF accordingly (para. 119 and Appendix XVII);
- to append the revised Schedule I to the GSCTF, and to request the Commission to revoke the existing individual Codex standards for Maximum/Guideline Levels for contaminants and toxins. It further agreed to append Schedule II to the GSCTF as an empty annex awaiting the finalization of the food categorization system (para. 124 and Appendix XVIII);
- to forward the following statements with regard to the serious situation of the WHO contribution for JECFA activities: "The CCFAC expresses its concern about the financial situation regarding the work of JECFA. CCFAC would like to request the Commission to bring this concern to the attention of the Director General of WHO and to ask for long-term sustainable funding of the activities necessary to support the work of Commission, in particular JECFA and related activities"; (para. 224);

ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVEL FOR FOOD ADDITIVES AND PROCESSING AIDS IN CODEX STANDARDS

The Committee agreed :

Codex Committee on Milk and Milk Products (CCMMP)

- to return most of the proposed food additive provisions to CCMMP for further consideration and clarification. The Committee also agreed to request CCMMP to clarify in several proposed darft Standards the use of numerical maximum levels as quality factors for additives with non-numerical ADIs assigned by JECFA, rather than GMP, in the proposed draft revised Standards for Cheddar and for Danbo. In recognizing that JECFA had evaluated paprika oleoresins (INS 160 c) only as a spice and not as colour, agreed to recommend to CCMMP to delete paprika oleoresins from the list of food additives in the proposed draft Standards for Cheddar and for Danbo (paras 44-45 and Appendix V);.

Codex Committee for Nutrition and Foods for Special Dietary Uses (CCNFSDU)

- to return to CCNFSDU most of the food additive provisions for clarification and to include in Section 4 (food additives) of the draft revised Standard for Processed Cereal-based Foods for Infants and Young Children, some text to clarify the conditions on the carry-over of food additives applied to this Standard. The Committee also agreed to seek clarification from the CCNFSDU about the status of flavour provisions in this standard (para. 46 and Appendix V).

Codex Committee on Cereals, Pulses and Legumes (CCCPL)

- to return all the food additive provision in the draft Standard for Instant Noodles to CCCPL for further consideration (para. 47 and Appendix V);

Codex Ad Hoc Intergovernmental Task Force on Fruit and Vegetable Juices (TFFVJ)

- to remove from the GSFA the footnote stating "Sulphites should be used only in fruit juices/nectars in bulk dispensers and in certain tropical juices/nectars." The Committee also agreed that the use of Polydimethylsiloxane in fruit juices at 10 mg/kg is a processing aid use. It further agreed to include sodium caseinate, potassium caseinate and isinglass in the list of processing aids in the General Standard for Fruit Juices and Nectars with inclusion of the footnote "Use of these processing aids should take into account their allergenic potential. If there is any carry over of these processing aids into finished product, they are subject to ingredient declaration in accordance with Sections 4.2.1.4 and Section 4.2.4 of the of the Codex General Standard for the Labelling of Prepackaged Foods."(para 49 and Appendix V);

MATTERS REFERRED TO CODEX COMMITTEE AND TASK FORCES

The Committee agreed :

Codex Commodity Committees

- to inform Codex Committees that, when considering the use of the food additive Lecithin, should be aware that there are two substances (Lecithin and Partially Hydrolyzed Lecithin) that are covered under INS 322 – Lecithins (para. 67);

Codex Committee on Processed Frits and Vegetables (CCPFV)

- to confirm to the CCPFV that the maximum levels apply to raw products and that, in the absence of a specific level for processed products, a processing (concentration/dilution) factor should be applied to processed products taking into account the specific properties of the contaminant (para. 121);

Codex Committee on Fish and Fishery Products (CCFFP)

- to reply to the Codex committee on Fish and Fishery Products that the revision of the Guideline Levels for Methylmercury in Fish (CAC/GL 7-1991) requires more comprehensive consideration by CCFAC in order to take into account all factors related to the consumption of fish, in particular risks and benefits and that, in the meantime, the existing Guideline Levels can be retained with the understanding that enforcement can be performed by determination of total mercury as a screening methods (for facilitating control/monitoring). Methylmercury needs only to be determined for verification purposes (para. 202).

MATTERS OF INTEREST TO THE CODEX ALIMENTARIUS COMMISSION AND/OR CODEX COMMITTEE AND TASK FORCES

The Committee agreed:

- that no action was required with respect to *Glycyrrhizinic acid* and *Polybrominated diphenylethers* and that the elaboration of a discussion paper on *Ethyl carbamate*, with special focus on alcoholic beverages was not a high priority and that, due to the limited resources, it should be taken up at a later stage (paras 40-41 and Appendix);.
- to establish an electronic Working Group, led by China, to: i) improve the management of the work on the General Standard on Food Additives; ii) develop an accompanying text to the Proposed Procedure for Consideration of the Entry and Review of Food Additives in the GSFA; iii) analyse the relationship between provisions of the GSFA and those of commodity Standards, and to identify and propose options to move Commodity Standard food additive provisions into the GSFA (with the aim to have food additive provisions in a single place); and, iv) propose corresponding revisions in the Codex Procedural Manual (para. 62);

- to re-establish the physical Working Group on the General Principles of the General Standard for Food Additives under the chairmanship of China to meet before its 38th Session (para. 63);
- to request the Codex Secretariat to prepare every year an updated working document on the GSFA similar to CX/FAC 05/37/6 (para. 67);
- that the delegation of Canada would prepare a discussion paper to propose options for addressing, in a uniform and consistent manner, the food additive provision in glazes for foods (para. 67);
- to reconvene the *ad hoc* Working Group on the Codex General Standard for Food Additives prior to its next session, under the Chairmanship of the United States (para. 68);
- to re-establish the Electronic Working Group on the GSFA, led by the United States, and requested it to provide a report with recommendations to the 38th Session of the CCFAC on the draft maximum levels for selected food additives (para. 70 and Appendix VIII);
- to request the Codex Secretariat to issue a separate Circular Letter requesting comments on selected food additive provisions, with the understanding that if no information is received by the 38th CCFAC to justify these uses, these food additive provisions will be deleted from the draft GSFA (para. 82 and Appendix IX);
- to circulate for comments at Step 3 the revised Section II "Table of functional classes, definitions and technological functions" as contained in CRD 4, subject to the approval of new work on the revision of "Codex Class Names and International Numbering System for Food Additives" (para. 94);
- to reconvene the *ad hoc* Working Group on Harmonization of Terms used by Codex and JECFA prior to its 38th Session under the Chairmanship of the United Kingdom to consider the revised Section II along with comments submitted at Step 3 (para. 95);
- that the delegation of New Zealand would prepare a further updated version of Inventory of Processing Aids (IPA), which would also include an introductory text with an explanation of changes, suggestions on the use of IPA and possible future work for consideration at its next session (para. 99);
- to establish an electronic Working Group, led by the United States, to prepare a discussion paper on the development of Guidelines on flavourings, taking into account the various terms and definitions used in Codex and which would also include a project document for starting new work (para. 102);
- to reconvene the *ad hoc* Working Group on Specifications prior to its next session under the Chairmanship of the United States (para. 112);
- to reconvene the *ad hoc* Working Group on Contaminants and Toxins in Foods prior to its 38th Session under the Chairmanship of the European Community (para. 122);
- to integrate the Annotated List of Contaminants and Toxins in Foods (Part 1 and Part 2) of CX/FAC 05/37/19 into a separate document "Working document for information and use in discussions on the GSCTF" and that the delegations of Japan and the Netherlands would prepare an update version of the document for presentation at the next session of the Committee (paras 124-125);
- to establish an electronic Working Group, led by Brazil to prepare, subject to the approval of new work, a proposed draft Appendix to the Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts to address additional measures for the prevention and reduction of aflatoxins in Brazil Nuts (para. 131);
- to circulate for comments at Step 3 the proposed draft maximum level for total aflatoxins in almonds, hazelnuts and pistachios (para. 141 and Appendix XXII);
- to return to Step 2 the proposed draft Sampling Plan for Aflatoxin Contamination in Almonds, Brazil Nuts, Hazelnuts and Pistachios (N07-2004) for redrafting by an electronic Working Group, led by the United States, for circulation, comments at Step 3 and further consideration at its next session (para. 144);
- to establish an electronic Working Group, led by Brazil, to revise the Discussion Paper on Aflatoxin Contamination in Brazil Nuts for consideration at its next session (para. 147);
- to establish an electronic Working Group, led by the United States, to develop a discussion paper to provide comprehensive relevant data, including the occurrence of deoxynivalenol (DON) and the effects of processing on the levels of DON for consideration at its next session (para. 150);
- to discontinue consideration of mycotoxin contamination in sorghum as it could not identify a delegation willing to prepare a discussion paper on this matter (para. 153);

- to establish an electronic Working Group, led by the Philippines, to prepare a discussion paper that compiles the information necessary to develop an appropriate maximum level for lead in fish for consideration at its next session; and to retain the draft maximum level for lead in fish at Step 7 and to decide the level at its next session on the base of the information contained in the Discussion Paper (paras 156-157 and Appendix XXIII);
- to circulate the proposed draft maximum levels for tin for comments at Step 3 (para. 163 and Appendix XXIV);
- to return the renamed proposed draft Code of Practice for the Prevention and Reduction of Dioxin and Dioxin-like PCB contamination in Foods and Feed to Step 2 for redrafting by an electronic Working Group, led by Germany, for circulation, comments at Step 3 and consideration at its next session (para. 180);
- to establish an electronic Working Group, led by the United Kingdom, that, pending the approval of the Commission of new work, would prepare a proposed draft Code of Practice for the Reduction of Chloropropanols during the Production of acid-Hydrolyzed Vegetable Proteins (HVPs) and Products that contain acid-HVPs (para. 183);
- to establish an electronic Working Group, led by the United Kingdom, to prepare a discussion paper that will define the different acid-HVP containing products and collect information on other products that contain 3-MCPDs; to request JECFA to conduct an exposure assessment for chloropropanols from all sources; and, to circulate the proposed draft maximum level for 3-MCPD in liquid condiments containing acid-HVP (excluding naturally fermented soya sauce) for comments at Step 3 (paras 189-190 and Appendix XXVIII);
- to establish an electronic Working Group, led by the United Kingdom, to revise the Discussion Paper on Acrylamide to take account the 64th JECFA evaluation, national mitigation strategies and the role of food processors, food catering services and consumers; that the revised Discussion Paper would include an outline of a Code of Practice and a project document for starting new work on the elaboration of the Code (paras. 193, 194 and 196);
- to establish an electronic Working Group, led by Denmark, to revise the Discussion Paper on Polycyclic Aromatic Hydrocarbons (PAHs) Contamination with particular attention to the 64th JECFA evaluation. It also agreed the revised Discussion Paper would include an outline of a Code of Practice mainly focusing on general advice addressing practices that may lead to high levels of PAHs and a project document for starting new work on the elaboration of the Code (paras. 199-200);
- to establish an electronic Working Group, led by the European Community, to revise the Discussion Paper on Guideline Levels for Methylmercury in Fish to consider: methods of analysis of methylmercury; elaboration of the Terms of Reference for an Expert Consultation on risks and benefits of fish consumption; and elaboration of a possible request to JECFA. The Chairperson of CCFAC agreed to organise a workshop close to the dates of the 38th Session of the Committee to exchange views on risk communication (paras 203 and 205);
- to return the draft revised Guideline Levels for Radionuclides in Foods for Use in International Trade to Step 2 for revision by a Working Group, led by the European Community and IAEA, for circulation, comments at Step 3 and further consideration at its next session; that the Working Group would revise the current draft in its entirety with a particular emphasis to the revision of the scope of the guideline levels to clarify that they only apply in situation related to nuclear accidents or radiological events and do not apply to routine monitoring purposes and to the separation of guidelines levels specific to general and infant food categories (para. 215);
- to request proposals for addition or amendments to the revised Priority List of Food Additives, Contaminants and Naturally Occurring Toxicants under a separate Circular letter which would also contain the questionnaire for submission, for consideration at its next session (para. 225 and Appendix XXIX);
- establish an electronic Working Group, led by the European Community, to prepare a discussion paper on Maximum Level for Ochratoxin A (OTA) in Wine for consideration at its next session (para. 228);
- to establish an electronic Working Group, led by Ghana, to prepare a discussion paper on Ochratoxin A Contamination in Coffee and Cocoa which takes into account the JECFA evaluation, the outputs of the FAO Coordinated Project “Enhancement of Coffee Quality through the Prevention of Mould Formation” and other relevant information for consideration at its next session (para. 230).

LIST OF ABBREVIATIONS USED IN THIS REPORT

3-MCPD	3-monochloropropane-1,2-diol
ARfD	Acute Reference Dose
ADI	Allowable Daily Intake
ALARA	As Low As Reasonably Achievable
CAC/GL	Codex Alimentarius Commission / Guidelines
CCCPL	Codex Committee on Cereals, Pulses and Legumes
CCFFP	Codex Committee on Fish and Fisheries Products
CCMMP	Codex Committees on Milk and Milk Products
CCNSFDU	Codex Committees on Nutrition and Food for Special Dietary Uses
CL	Circular Letter
CRD	Conference Room Document
EC	European Community
FAO	Food and Agriculture Organization of the United Nations
GMP	Good Manufacturing Practices
GSCTF	General Standard for Contaminants and Toxins in Foods
HVP	Hydrolyzed Vegetable Protein
IAEA	International Atomic Energy Agency
IADSA	International Alliance of Dietary/Food Supplement Associations
IPA	Inventory O Processing Aids
ISC	International Society of Citriculture
JECFA	Joint FAO/WHO Expert Committee on Food Additives
OIV	Office International de la vigne et du vin
PCBs	polychlorinated biphenyls
POP	Persistent Organic Pollutants
PTWI	Provisional Tolerable Weekly Intake
SPS	Sanitary and Phytosanitary Measures (WTO Agreement)
TBT	Technical Barrier to Trade (WTO Agreement)
TDI	Tolerable Daily Intake
TFFVJ	*Ad Hoc* Codex Intergovernmental Task Force on Fruit and Vegetable Juices
US	United States of America
WHO	World Health Organization
WTO	World Trade Organization

INTRODUCTION

1. The 37th Session of the Codex Committee on Food Additives and Contaminants (CCFAC) was held in The Hague[1], the Netherlands, from 25 – 29 April 2005, at the kind invitation of the Government of the Netherlands. Ms Annie De Veer, Deputy Director of Food Quality and Animal Health of the Netherlands Ministry of Agriculture, Nature and Food Quality, chaired the Session. The Session was attended by delegates representing 61 Member Countries, one Member Organization, and 40 International Organizations. The List of Participants is attached to this report as Appendix I.

OPENING OF THE SESSION

2. Dr Cees Veerman, the Minister of Agriculture, Nature and Food Quality of the Netherlands, opened the 37th Session of the Codex Committee on Food Additives and Contaminants. In his statement, Dr Veerman, while highlighting the high productivity of the Committee, noted that the current workload of the Committee was very high. He stated that a division into two separate Committees, one dealing with additives and the other with contaminants, was desirable. Dr Veerman also stressed the importance of scientific work supporting the work of the Committee. He appreciated the results of the Codex Trust Fund resulting in strong attendance and active participation of developing countries in the Committee.

ADOPTION OF THE AGENDA (Agenda Item 1)[2]

3. The Committee adopted the Provisional Agenda as proposed. It agreed that Agenda Item 8 "Harmonization of Terms Used by Codex and JECFA" and Agenda Item 9 "Discussion Paper on Carriers" would be discussed together. It further agreed to discuss the following under Agenda Item 19 "Other Business and Future Work":

- Ochratoxin A in wine (request from OIV);
- Descriptor of "Food Supplements" in the Food Category System of GSFA (request from IADSA);
- Code of Practice for the Prevention and Reduction of Ochratoxin A in coffee and cocoa (request from the European Community);
- Use of overheads to facilitate deliberations (request from Morocco).

4. The Committee agreed to hold Working Groups on the International Numbering System (INS) (Agenda Item 7) and on JECFA Priorities (Agenda Item 18) under the Chairmanships of Finland and the Netherlands, respectively.

5. The Delegation of the European Community presented CRD 8 (Annotated Agenda) on the division of competence between the European Community and its Member States according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission.

APPOINTMENT OF THE RAPPORTEUR (Agenda Item 2)

6. The Committee agreed to appoint Dr Bruce H. Lauer (Canada) as Rapporteur for the Session.

MATTERS REFERRED/OF INTEREST TO THE COMMITTEE ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES (Agenda Item 3a)[3]

7. The Secretariat informed the Committee on matters arising from the 27th Session of the Commission, from the 55th Session of the Executive Committee and from other Codex Committees and Task Forces. The Committee noted that most of the matters were for information purposes while others would be discussed in more detail under relevant Agenda Items.

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1 The first day of the 37th Session was held in Noordwijk aan Zee.
2 CX/FAC 05/37/1; CRD 9 (Comments by OIV) and CRD 10 (Comments by IADSA).
3 CX/FAC 05/37/2; CX/FAC 05/37/2, Add.1.

8. In particular, the Committee commented and/or made decisions on the following matters:

Terms of Reference of the Committee on Food Additives and Contaminants

9. In response to the request of the last session of the Commission to review its terms of reference in relation to sampling plans[4], the Committee agreed to revise point (d) of its terms of reference to read "To consider methods of sampling and analysis for their determination in food and feed" and to move the revised point (d) after point (b) for clarity purpose. The Committee agreed to forward the revised terms of reference as contained in Appendix II to the 28th Session of the Commission.

Risk Analysis Definitions

10. The Committee recalled that the last session of the Commission had adopted the definitions of "Food Safety Objective", "Performance Objective" and "Performance Criterion" and referred the definitions to all Committees involved in risk analysis for advice, with the understanding that the Committee on General Principles would reconsider the definitions, if required, in the light of any comments received. Some delegations pointed out that since concepts in the definitions had been developed for microbiological hazards, they might not be directly applicable to chemical hazards and their application in the work of the Committee might require further consideration in the future. The Committee concluded by expressing its support for these definitions.

Coconut Water

11. The Committee recalled that at its last session, it decided to request the *ad hoc* Codex Intergovernmental Task Force on Fruit and Vegetable Juices to clarify whether coconut water should be included in the draft Codex General Standard for Fruit Juices and Nectars. In noting the decision of the Task Force to enter a footnote to the term " coconut" in the Annex to the General Standard to clarify that the juice of this fruit was the "coconut water" extracted from the coconut without expressing the coconut meat[5], the Committee endorsed the recommendation of the *ad hoc* Working Group on the General Standard on Food Additives (GFSA) to request the 28th Session of the Commission to amend Annex B (Food Category System) of the Codex General Standard for Food Additives by including coconut water as an example in the description of food category 14.1.2.1 (Fruit juices) as indicated in Appendix III.

MATTERS OF INTEREST FROM FAO/WHO (Agenda Item 3b)[6]

Consultative process on the Provision of Scientific Advice

12. The Representative of FAO presented, on behalf of FAO and WHO, working document CX/FAC 05/37/3. The Committee noted that, as follow-up of the recommendations of the 2004 workshop, FAO and WHO were preparing a *Procedural Guideline* that would compile all written procedures followed by FAO and WHO in the provision of scientific advice and were preparing a technical workshop to explore new approaches to enhance the participation of experts and use of data from developing countries in international scientific advice activities. The Committee was also informed that FAO and WHO were preparing review papers to address procedures for the selection of experts, to consider factors associated with enhanced openness of meetings, and to improve procedures on the use of data. FAO/WHO were planning an intergovernmental meeting or expert consultation to finalize the consultative process. However, extra budgetary resources for this purpose need to be identified.

Priority Setting of Requests for Scientific Advice

13. The FAO Representative referred to the criteria recommended to FAO/WHO by the 55th Session of the Codex Executive Committee for the prioritization of requests by Codex for scientific advice. The Committee noted that, in order to prioritize requests for scientific advice, FAO and WHO needed to have a clear definition of the scope and objective and a clear indication of the way in which the advice would be used in the work of Codex, as well as of its urgency.

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4 ALINORM 04/27/41, para. 99.
5 ALINORM 05/28/39, para. 12.
6 CX/FAC 05/37/3.

Proposed GEMS/Food Consumption Cluster Diets

14. The WHO Representative reported[7] that using a cluster analysis approach, thirteen GEMS/Food Consumption Cluster Diets had been developed based on average FAO Food Balance Sheet data for the period 1997-2001. The list of countries assigned to the various Consumption Cluster Diets and average per capita intake of commodities for these diets (in g/person/day) are available on the WHO Website (http://www.who.int/foodsafety/chem/gems/en/). These new diets are intended to replace the existing five GEMS/Food Regional Diets, which are used by FAO/WHO advisory bodies in the exposure assessment of pesticide residues and contaminants.

15. For a number of commodities or commodity groups, no data were available for many countries in the FAO database. Before the GEMS/Food Consumption Cluster Diets can be further refined, countries would need to provide missing data for these food items. A list of missing data for each cluster and country is available at the above mentioned Website.

16. The Committee was informed that the cluster diets were presented to the 37th Session of the Codex Committee on Pesticides (CCPR), which welcomed the development of more accurate and relevant diets. The CCPR agreed that a Circular Letter would be sent requesting countries to provide information on foods for which data were missing.

17. The WHO Representative requested all delegations of CCFAC to take note of the Circular Letter to ensure that persons possessing relevant food consumption data submit these to WHO. Because this Committee refers to the GEMS/Food Regional Diets when deciding whether a Maximum Level for a contaminant should be considered, the WHO Representative suggested that an item on the GEMS/Food Consumption Cluster Diets be included on the agenda for the next session.

SIXTY-THIRD AND SIXTY FOURTH MEETINGS OF THE JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES (JECFA) (Agenda Item 4)

18. The WHO Joint Secretary of JECFA drew the attention of the Committee to the difficult financial situation currently faced by the WHO part of the JECFA. The basic principle for all programme work of WHO was explained, namely that a large part of financial support for all activities comes from specified extra budgetary contributions from Member Countries, and only a small part comes from the WHO regular budget. The WHO part of the JECFA programme cannot be continued if additional funds are not made available. There are several reasons for this, such as increased programme cost and decreased specified extra budgetary contributions by Member Countries to the WHO JECFA programme. A letter from the WHO Joint Secretary describing this situation and requesting increased support by Member Countries was distributed to the Committee.

19. The Representative of FAO informed the Committee about FAO's serious concern about this situation. The Committee was also informed that FAO, following the recommendations made by the recent Codex evaluation and the priority given by FAO governing bodies to Codex and Codex-related activities, had substantially increased its budgetary allocation for Codex and all expert bodies, including JECFA, to provide the necessary scientific advice in food safety. However, due the joint FAO/WHO nature of the activities for the provision of scientific advice, the increased allocation of FAO resources might be jeopardized due to the lack of WHO's resources. The Committee noted that FAO considers that the appropriate fora to discuss the WHO difficult financial situation are relevant WHO governing bodies, including the upcoming World Health Assembly (WHA). In this regard FAO is planning to call the attention of the WHA to this matter and on its repercussions on joint FAO/WHO activities on the provision of scientific advice.

SUMMARY REPORT OF THE 63RD AND 64TH MEETINGS OF THE JOINT FAO/WHO EXPERT COMMITTEE ON FOOD ADDITIVES (Agenda Item 4a)[8]

20. The Joint Secretariat to JECFA presented the results of the 63rd Meeting of the Expert Committee (June 2004) and the 64th Meeting (February 2005), as they were reported in the Summary Report of the Meetings.

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7 CRD 29 (proposed GEMS/Food Consumption Cluster Diets).

8 Report available online at the Joint Secretariat's web pages at FAO http://www.fao.org/es/ESN/jecfa/index_en.stm and WHO http://www.who.int/ipcs/food/en/ .

21. JECFA at its **63rd meeting** evaluated 18 food additives, 9 of them for specifications only, and revised the limits for arsenic and other heavy metals for 84 food additives. In addition, the safety of peroxyacid antimicrobial solutions and the natural food constituent glycyrrhizinic acid was evaluated.

22. A group ADI was established for lutein from *Tagetes erecta* and for synthetic zeaxanthin. ADIs 'not specified' were allocated to three enzymes. A temporary ADI was established for steviol glycosides.

23. JECFA concluded that benzoyl peroxide does not pose a safety concern for treatment of whey at maximum concentrations of 100 mg/kg; and that alpha-cyclodextrin does not pose a safety concern at the proposed use levels (10 g/kg in non alcoholic beverages, max. 100 g/kg in bakery products) and resulting in predicted consumptions as food ingredient and food additive.

24. In addition JECFA evaluated the safety of use of peroxyacid antimicrobial solutions, containing 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) (as a sequestrant or stabilizer). The safety of the antimicrobial solutions was assessed on a component-by-component basis, considering the potential residue of each component or its breakdown products in food as consumed. JECFA concluded that residual levels do not pose a safety concern.

25. JECFA also evaluated the safety of 178 flavours in 8 groups. All flavouring agents were considered to be of no safety concern at their intended use and estimated intake levels. The previously established ADI 'not specified' for d-limonene was maintained.

26. Lastly, glycyrrhizinic acid, a natural food constituent, was evaluated and JECFA concluded that an intake of 100 mg per day (per person) would be unlikely to cause adverse effects in healthy adults.

27. JECFA also prepared specifications for 217 food additives including flavouring agents.

28. The Committee was informed that JECFA also considered a possible approach to the safety assessment of complex flavours derived from natural sources, and that these approaches will be given further consideration at the 65th JECFA meeting in June, 2005.

29. The Joint Secretariat also stressed the need for responses to the call for data requested for changes in specifications and that these data should include analyses of several lots or batches.

30. JECFA at its **64th meeting** considered the safety of six contaminants: acrylamide, cadmium (impact assessment of different maximum limits), ethyl carbamate, inorganic tin, polybrominated diphenylethers, polycyclic aromatic hydrocarbons. In addition, JECFA discussed several general considerations.

31. JECFA considered the formulation of advice on compounds that are both genotoxic and carcinogenic. JECFA has established procedures for determining health-based guidance values for chemicals that produce adverse effects through a thresholded mechanism. For compounds that are both genotoxic and carcinogenic, a threshold is not assumed, and the advice given previously by JECFA was based on the ALARA principle, i.e. that intakes should be reduced to as low as reasonably achievable.

32. Because such advice is of limited value and does not allow risk managers to prioritize different contaminants and to target their risk management actions, JECFA considered alternative approaches for providing advice. After considering several options, JECFA decided to base its advice on the margin of exposure (**MOE**) approach, since this was the most pragmatic and usable at the present time. The MOE expresses the margin between a predefined low effect level from experimental studies with the estimated human exposure, and the lower the MOE, the higher the health concern.

33. JECFA also considered the need for establishing an acute reference dose for certain substances that could present an acute risk, such as some metals and mycotoxins. JECFA, building on the guidance developed by the Joint FAO/WHO Meeting on Pesticide Residues (JMPR), may consider setting ARfDs, where appropriate, in the future. However, for substances that have local irritant or caustic effects, such as inorganic tin, the concentration in foods is the most relevant parameter and there is no need to establish an ARfD. JECFA also noted that there is a need to develop methodologies to assess the short-term dietary intakes of contaminants.

34. Only the reviews of ethyl carbamate and polybrominated diphenylethers are briefly discussed below. All other subjects will be described under relevant sub-parts of Agenda Item 17.

Ethylcarbamate:

35. The 64th JECFA concluded that intake of ethyl carbamate from foods, excluding alcoholic beverages, would be of low concern (MOE = 20,000). The MOE of 3,800 for all intakes, food and alcoholic beverages combined, is of concern and therefore mitigation measures to reduce concentrations of ethyl carbamate in some alcoholic beverages should be continued.

Polybrominated diphenylethers:

36. Based on limited toxicity data on polybrominated diphenyl ethers (PBDE), the 64th JECFA concluded that there appeared to be a large MOE for a non-genotoxic compound which, despite the inadequacy of the data on toxicity and intake, provided reassurance that intakes of PBDEs are not likely to be a significant health concern.

37. Some delegations expressed concern about the exposure assessments with different maximum levels options by JECFA, because this did not sufficiently take into account the dynamic aspects of contaminants levels and the effects of risk management.

ACTION REQUIRED AS A RESULT OF CHANGES IN THE ADI STATUS AND OTHER TOXICOLOGICAL RECOMMENDATIONS (Agenda Item 4b)[9]

38. The Committee noted actions required by CCFAC as a result of changes to existing ADIs and/or the establishment of new ADIs for food additives, or other toxicological recommendations for contaminants, as recommended by the 63rd and 64th JECFA Meetings.

39. The Committee endorsed the recommendations of the *ad hoc* Working Group on the GSFA with regard to the food additives listed in Table 1 "Food additives evaluated toxicologically at the 63rd JECFA meeting".

40. The Committee agreed that no action was required with respect to *Glycyrrhizinic acid* (Table 2 "Natural constituent evaluated toxicologically at the 63rd JECFA meeting").

41. The Committee noted that recommendations for most of the contaminants contained in Table 3 "Contaminants evaluated toxicologically at the 64th JECFA meeting" would be discussed in more detail under relevant Agenda Items. With regard to the other contaminants in Table 3, the Committee endorsed the recommendations of the *ad hoc* Working Group on the Contaminants and Toxins that no action was required for *Polybrominated diphenylethers*. The Committee considered the proposal of the Working Group that a discussion paper be elaborated on *Ethyl carbamate*, with special focus on alcoholic beverages. It was observed that the matter was relevant, but not a high priority and that, due to the limited resources, it should be taken up at a later stage.

42. The recommendations of the Committee are summarised in Appendix IV.

ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVELS FOR FOOD ADDITIVES AND PROCESSING AIDS IN CODEX STANDARDS (Agenda Item 5)[10]

43. In accordance with the section concerning the relations between Commodity Committees and General Committees of the Codex Alimentarius Commission Procedural Manual, the Committee considered the endorsement of food additive and processing aid provisions arising from the Codex Committees on Milk and Milk Products (CCMMP), on Nutrition and Food for Special Dietary Uses (CCNSFDU), on Cereals, Pulses and Legumes (CCCPL) and from the *ad Hoc* Codex Intergovernmental Task Force on Fruit and Vegetable Juices (TFFVJ).

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9 CX/FAC 05/37/4. CRD 2 (Report of the Ad *hoc* Working Group on GSFA); CRD 6 (Report of the Ad *hoc* Working Group on Contaminants and Toxins).

10 CX/FAC 05/37/5; CX/FAC 05/37/5, Add.1; CRD 19 (Comments by New Zealand), CRD 20 (Revised list of Food Additives of the draft Standard for Instant Noodles – prepared by the Codex Secretariat).

Codex Committee on Milk and Milk Products

44. The Committee reviewed the proposals for endorsement of food additive provisions in the proposed draft Standards for a Blend of Evaporated Skimmed Milk and Vegetable Fat, for a Blend of Skimmed Milk and Vegetable Fat in Powdered Form, the proposed draft revised Standards for Cheddar, for Danbo and for Whey Cheeses, submitted by the 6th Session of CCMMP. The Committee agreed with the recommendation of the *ad hoc* Working Group on the GSFA to return most of the proposed food additive provisions to CCMMP for further consideration and clarification. The Committee also agreed to request CCMMP to clarify the use of numerical maximum levels as quality factors for additives with non-numerical ADIs assigned by JECFA, rather than GMP, in the proposed draft revised Standards for Cheddar and for Danbo.

45. The delegation of the United States made a reservation on the endorsement of β-apo-8`-carotenoic acid, methyl and ethyl ester (INS 160f), sodium nitrates (INS 251) and potassium nitrate (INS 252) in the proposed draft Standards for Cheddar and for Danbo since these food additives were not approved domestically in view of unresolved safety concerns. The delegation of Switzerland also made a reservation on the endorsement of pimaricin (INS 235) in the proposed draft revised Standard for Whey Cheeses. The Committee, recognizing that JECFA had evaluated paprika oleoresins (INS 160 c) only as a spice and not as colour, agreed to recommend to CCMMP to delete paprika oleoresins from the list of food additives in the proposed draft Standards for Cheddar and for Danbo.

Codex Committee for Nutrition and Foods for Special Dietary Uses

46. The Committee considered the food additive provisions in the draft revised Standard for Processed Cereal-based Foods for Infants and Young Children submitted by the 26th Session of CCNFSDU. The Committee agreed with the recommendation of the *ad hoc* Working Group on the GSFA to return to CCNFSDU most of the food additive provisions for clarification and to include in Section 4 (food additives) of the draft revised Standard, some text to clarify the conditions on the carry-over of food additives applied to this Standard. The Committee also agreed to seek clarification from the CCNFSDU about the status of flavour provisions in this standard.

Codex Committee on Cereals, Pulses and Legumes

47. The Committee noted that the food additive provisions for the draft Standard for Instant Noodles contained in the working document CX/FAC 05/37/5-Add.2 were replaced by the food additive provisions contained in CRD 20. The Committee agreed with the recommendation of the *ad hoc* Working Group on the GSFA to return all the food additive provision in the draft Standard for Instant Noodles to CCCPL for further consideration. The delegation of the Republic of Korea informed the Committee that the Asian member countries had reached a consensus on a revised list of food additive provision and sought the possibility of endorsement of such a list. In this regard, it was noted that substantive modifications of the list of food additive provisions was the task of CCCPL.

Codex Ad Hoc Intergovernmental Task Force on Fruit and Vegetable Juices

48. The Committee considered the request submitted by the 4th Session of the Ad Hoc Intergovernmental Task Force on Fruit and Vegetable Juices in relation to the footnote on sulphites, the use of polydimethylsiloxane as a processing aid and the deletion of insinglass in the draft General Standard for Fruit Juices and Nectars.

49. The Committee agreed with the recommendation of the *ad hoc* Working Group on the GSFA to remove from the GSFA the footnote stating “Sulphites should be used only in fruit juices/nectars in bulk dispensers and in certain tropical juices/nectars.” The Committee also agreed that the use of Polydimethylsiloxane in fruit juices at 10 mg/kg is a processing aid use and recommend that the CAC revoke the provision in the GSFA for this substance in food category 14.1.2 (fruit and vegetable juices) at 10 mg/kg which was adopted at Step 8 in 1999. It further agreed to include sodium caseinate, potassium caseinate and isinglass in the list of processing aids in the General Standard for Fruit Juices and Nectars with inclusion of the footnote “Use of these processing aids should take into account their allergenic potential. If there is any carry over of these processing aids into finished product, they are subject to ingredient declaration in accordance with Sections 4.2.1.4 and Section 4.2.4 of the of the Codex General Standard for the Labelling of Prepackaged Foods.”

Status of Endorsement and/or Revision of Maximum Level for Food Additives and Processing Aids in Codex Standards

50. The status of endorsement and/or revision of maximum level for food additives and processing aids in Codex Standards is shown in Appendix V of this report.

CONSIDERATION OF THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES (Agenda Item 6)[11]

51. The Committee was informed on the progress made in the development of a web-based database on the GSFA. The Committee expressed its appreciation for this initiative that would assist in making the GSFA more widely accessible.

PREAMBLE OF THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES (Agenda Item 6a)[12]

52. The 36th Session of the CCFAC agreed to establish a Working Group with the following terms of reference: (a) review the currently-used working principles applied by the Committee when developing the GSFA; (b) adapt these working principles with the objective to improve the work, taking into consideration that the development of the GSFA needs to respect the following criteria: (i) the GSFA needs to be consistent with other standards adopted by the Codex Alimentarius Commission; (ii) the entries to the GSFA should be developed in a transparent manner; (iii) the GSFA needs to be developed in a fair and consistent way; and, (iv) the GSFA has been under development for more than 10 years, changes to the working principles should result in an acceleration rather than leading to further delay; (c) describe the proposed amended working principles in a separate document that will accompany the GSFA. In a second step, the Working Group is asked to consider where these working principles would require the amendment of other documents adopted by the Commission; (d) analyse, as part of this work, the relationship between provisions of the GSFA and those of Commodity Standards and (shall) propose procedures that will assure consistency among different sections of the Codex Alimentarius that address the use of food additives in standardized foods; and, (e) present to the next session of the Committee a progress report and possibly, depending on the progress made, questions in order to receive further comments.[13]

53. The progress report of the Working Group was considered by a physical Working Group which convened on Thursday 21 April 2005 in The Hague. This Working Group was chaired by Dr Junshi Chen (China). Ms Maryke Herbst (South Africa) and Mr John van den Beuken (New Zealand) served as Rapporteurs.

54. The Committee was informed by the Chair that the Working Group had considered the progress report of the electronic Working Group on the Working Principles of GSFA contained in the document CX/FAC 05/37/7 and had focussed its discussions on the four Appendices contained in the document, namely:

Appendix I: Current Working Principles for elaboration of the GSFA;

Appendix II: Diagram of currently used procedure for additives proposed for entry into the GSFA;

Appendix III: Comparison of GSFA with the Codex Procedural Manual and the General Principles for the Use of Food Additives, (CAC/MISC 1-1972);

Appendix IV: Proposed Draft Revision of the Preamble of the General Standard for Food Additives.

General Principles for the Use of Food Additives (CAC/MISC 1-1972)

55. The Committee considered the recommendations of the Working Group as contained in CRD 1 and agreed to the following:

- To request the 28th Session of the Commission to revoke the "General Principles for the Use of Food Additives", since the main content of the document was already included in the proposed draft revision of the Preamble of the GSFA and the document was out-of-date; and

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11 CX/FAC 05/37/6 (Working Document for Information and Support to the Discussion on the General Standard for Food Additives).

12 CX/FAC 05/37/7; CX/FAC 05/37/7, Add. 1 (Comments by Brazil, European Community, United States, ELC, IFT and IFU). CRD 1 (Report of the Meeting of the Working Group on the Working Principles of the GSFA).

13 ALINORM 04/27/12, para. 59.

- To delete the references to this document in the Codex Procedural Manual (Relations between Commodity Committees and General Committees – Food Additives and Contaminants) and to forward these amendments to the 28th Session of the Commission (see Appendix VI).

Proposed draft revision of the Preamble of the GSFA

56. The Committee considered the proposed draft revision of the GSFA prepared by the Working Group as contained in CRD 1. In addition to the proposed and some minor editorial changes, the Committee decided to add in Section 4.1 "Conditions Applying to the Carry-Over of Food Additive" a sentence to specify that an additive might be used in a raw material or other ingredient if the raw material or ingredient was used exclusively in the preparation of a food that was in conformity with the provisions of the Standard.

57. The Committee agreed to delete the heading of Section 4.2 "Ingredients and Raw Materials as Carriers for Additives" and to move the corresponding text in Section 4.1 "Conditions Applying to Carry-Over Additives" before point (a).

58. The Committee did not support a proposal of the delegation of India to amend the last sentence of Section 1.1 "Food Additives included in this Standard" to specify that technological justification for the use of food additives was the responsibility of Commodity Committees. India's reservation on the present wording of this was noted.

59. The Committee noted that the Working Group agreed that the food additive provisions in the Codex Commodity Standards should be moved into the GSFA. However, the Working Group could not reach agreement on Section 1.2 "Food in which Additives may be Used" as to how the food additive provisions should be moved from Codex Commodity Standards into the GSFA.

60. The Committee considered a revised version[14] of the "Diagram of currently used procedure for additives proposed for entry into the GSFA". It decided to append the revised diagram to the proposed draft revision of the Preamble as it was considered to be a very helpful tool to show the procedure.

61. The Delegation of India did not support this decision as it was of the opinion that the procedures described in the diagram were inconsistent with the procedures contained in section "Relation between Commodity Committees and General Committees of the Procedural Manual". The delegation of India was also of the view that the diagram attached to the report (CRD 1) of the Working Group should be the basis of future discussion.

62. The Committee considered the other recommendations of the Working Group and, in consideration of the previous discussion, agreed to establish an electronic Working Group led by China[15] with the following terms of reference:

a) To improve the management of the work on the General Standard on Food Additives, taking into consideration the following criteria:

   (i) The GSFA needs to be consistent with other standards adopted by the Codex Alimentarius Commission;

   (ii) The entries to the GSFA should be developed in a transparent manner;

   (iii) The GSFA needs to be developed in a fair and consistent way; and,

   (iv) Changes to the working principles should result in acceleration rather than leading to further delay

b) To develop an accompanying text to the Proposed Procedure for Consideration of the Entry and Review of Food Additives in the GSFA.

c) To analyse the relationship between provisions of the GSFA and those of commodity Standards, to identify and propose options to move Commodity Standard food additive provisions into the GSFA (with the aim to have food additive provisions in a single place).

d) To propose corresponding revisions in the Codex Procedural Manual.

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14 Entitled "Proposed Procedure for Consideration of the Entry and Review of Food Additives in the GSFA"

15 With the assistance of Australia, Brazil, Canada, European Community, France, India, Japan, Korea, Morocco, New Zealand, Nigeria, Norway, Sweden, Switzerland, Thailand, United States, ELC, ICGMA, IDF and IFU.

63. The Committee decided to re-establish the physical Working Group on the General Principles of the General Standard for Food Additives under the chairmanship of China to meet before its 38th Session. It was understood that the physical Working Group would be open to all interested delegations.

Status of the proposed draft revision of the Preamble of the Codex General Standard for Food Additives

64. The Committee agreed to forward the proposed draft revised Preamble of the GSFA, including the diagram, to the 28th Session of the Commission for adoption at Step 5 (see Appendix VII).

REPORT OF THE *AD HOC* WORKING GROUP ON THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES (Agenda Item 6b)[16]

65. The 36th Session of the CCFAC decided to reconvene the *ad hoc* Working Group on the Codex General Standard for Food Additives prior to its 37th Session under the Chairmanship of the United States[17]. Dr Dennis Keefe (United States) chaired this meeting of the *ad hoc* Working Group. Ms Iona Pratt (Ireland) and Mr Najib Layachi (Morocco) served as rapporteurs.

66. The Chair of the Working Group briefly summarized the discussions and proposed several general recommendations for endorsement by the Committee.

General Recommendations

67. The Committee agreed to the following recommendations of the Working Group:

- To request the Codex Secretariat to prepare every year an updated working document on the GSFA similar to CX/FAC 05/37/6. The updated working document should reflect the most recent decisions of the Commission on the GSFA;
- To prepare a discussion paper to propose options for addressing, in a uniform and consistent manner, the food additive provision in glazes for foods. The delegation of Canada offered to prepare this discussion paper for consideration of the 38th Session.
- To inform the 28th Session of the Commission that in principle the maximum use levels for BHA, BHT, TBHQ, and Propyl Gallate in all Codex standards should be expressed on the fat or oil content, as appropriate, and on their combined use;
- To inform Codex Committees that, when considering the use of the food additive Lecithin, should be aware that there are two substances (Lecithin and Partially Hydrolyzed Lecithin) that are covered under INS 322 – Lecithins.

Status of the *ad hoc* Working Group on the Codex General Standard for Food Additives

68. The Committee decided to reconvene the *ad hoc* Working Group on the Codex General Standard for Food Additives prior to its next session, under the Chairmanship of the United States.

16 CRD 2 (Report of the *ad hoc* Working Group on the GSFA).
17 ALINORM 04/27/12, para. 52.

FOOD ADDITIVES PROVISIONS OF THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES (Agenda Item 6c)[18]

69. The 36th Session of the CCFAC re-established the newly-named electronic Working Group, led by the United States, and requested it to provide a report with recommendations to the 37th Session of the CCFAC on the draft maximum levels for the food additives listed in Appendix X of its report. The Committee also decided that the Electronic Working Group should also develop a rational and consistent proposal to address the proposed draft, draft, and adopted provisions for phenolic antioxidants (BHA, BHT, TBHQ, and propyl gallate) in the GSFA.[19]

Electronic Working Group

70. The Committee endorsed the recommendation of the *ad hoc* Working Group to re-establish the Electronic Working Group on the GSFA, led by the United States[20] and requested it to provide a report with recommendations to the 38th Session of the CCFAC on the draft maximum levels for the food additives listed in Appendix VIII to this report.

Recommendations for Adoption of draft (at Step 8) and proposed draft (at Step 5/8) Food Additive Provisions

71. Upon the request of ISC the provisions for INS 445, Glycerol Ester of Wood Rosin were re-discussed. Several delegates agreed that the proposed level of 50 mg/kg for 04.1.1.2 surface-treated fresh fruit and 04.2.1.2 surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes and aloe vera), seaweeds, and nuts and seeds would be too low to achieve the desired technological effect. Since technological justification had been provided (CX/FAC 05/37/9) for the needed level of 110 mg/kg, the Committee agreed to advance this level.

72. The Committee decided to delete the explanatory text under the note on sulphites as to make clear that the note did not apply to fruit juices and nectars only.

73. The Committee endorsed the recommendation of the *ad hoc* Working Group, with the above mentioned changes, and decided to advance the provisions to Steps 8 and 5/8 (with recommendation to omit Steps 6 and 7) for final adoption by the Commission.

74. The Committee also agreed to include Acetylated Oxidized Starch (INS 1451), Cross-linked Carboxymethyl Cellulose (INS 468) and α-Cyclodextrin (INS 457) in table 3 of the GSFA, for adoption by the 28th Session of the Codex Alimentarius Commission at step 5/8.

Recommendations for Revocation of Adopted Food Additive Provisions and for Discontinuation of Draft and Proposed Draft Food Additive Provisions

75. The Committee endorsed the recommendation of the *ad hoc* Working Group to revoke a number of food additive provisions in the GSFA.

76. It further agreed to endorse the recommendation of the *ad hoc* Working Group to discontinue work on a number of food additive provisions in the GFSA with the exception of:

- BHA (INS 320) for the food categories 09.2.1, 09.2.2, 09.2.5, 09.3 and 09.4;
- BHT (INS 321) for the food categories 02.2.1.1, 09.2.1, 09.2.2, 09.2.5, 09.3 and 09.4;
- Chlorophylls, Copper Complexes (INS 141i) for the food categories 07.2.2 and 07.2.3;
- Benzoates for the food categories 04.1.2.5 and 12.5.1.

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18 CX/FAC 05/37/8 (Comments submitted in response to CL 2004/9-FAC by Brazil, European Community, IFCGA and OIV); CX/FAC 05/37/8-Add.1 (Comments by Cuba). CX/FAC 05/37/9 (Report of the Electronic Working Group). CX/FAC 05/37/10 (Comments submitted in response to CL 2004/44-FAC by Brazil, Chile, European Community, Indonesia, United States, Venezuela, AAC, AMFEP, CEFS, ELC, IFAC, ISA and OIV). CX/FAC 05/37/10-Add.1 (Comments by Cuba and IFU), CRD 14 (Comments by OIV), CRD 21 (Comments by Malaysia), CRD 24 (comments by ISA), CRD 27 (Comments by India) and CRD 28 (Comments by Indonesia).

19 ALINORM 04/27/12, paras 70-71.

20 With the assistance of Australia, Brazil, Canada, European Community, Japan, Ireland, South Africa, ELC, IFAC, ISA, ICBA and ICGMA

77. The Committee agreed to circulate these checked provisions for further consideration and comments for the next session of CCFAC.

78. The Committee agreed to request the Codex Secretariat to prepare a list of all draft (Step 6) food additive provisions for the double entries for the same additive in the same food category and provide this information to the 28th Session of the Commission with a recommendation to discontinue work on these provisions.

79. The Committee agreed that the provision for the use of quillaia extract at 500 mg/kg in food category 14.1.4 (water based flavoured drinks, including "sport" "energy" or "electrolyte" drinks and particulated drinks) will be held at Step 7 until JECFA has completed its review.

Proposal to Address Provisions for Phenolic Antioxidants

80. The Committee endorsed the recommendation of the *ad hoc* Working Group that all provisions in the GSFA for Propyl Gallate (INS 310), Butylated Hydroxyanisole (INS 320), Butylated Hydroxytoluene (INS 321) and Tertiary Butylhydroxyquinone (INS 319) should, where appropriate, be expressed on the fat or oil basis and the maximum level of use should be expressed on a combined level of use.

Request for Information

81. The Committee endorsed the recommendation of the *ad hoc* Working Group to only request comments on the food additive provisions that correspond to the priority additives identified for further discussion. The remaining food additive provisions in the GSFA should be held at the appropriate step in the Codex procedure until the CCFAC decides to consider these for further discussion. It also agreed that further information would be requested on Neotame (INS 961), Polyvinyl alcohol (INS 1203) and Aspartame-acesulfame salt (INS 962).

82. The Committee requested the Codex Secretariat to issue a separate Circular Letter requesting comments on the above food additive provisions as contained in Appendix IX, with the understanding that if no information is received by the 38th CCFAC to justify these uses, these food additive provisions will be deleted from the draft GSFA.

Status of the Codex General Standard for Food Additives

83. The Committee agreed:

- to forward the draft and proposed draft food additives provisions of the GSFA to the 28th Session of the Commission for adoption at Step 8 and Step 5/8 (with recommendation to omit Step 6 and 7) (see Appendix X);
- to request the 28th Session of the Commission to revoke a number of food additives provisions (see Appendix XI);
- to inform the 28th Session of the Commission of discontinuation of work on a number of food additive draft and proposed draft food additive provisions (see Appendix XII).

INTERNATIONAL NUMBERING SYSTEM (INS) FOR FOOD ADDITIVES (Agenda Item 7) [21]

PROPOSALS FOR ADDITION AND/OR AMENDMENTS TO THE INTERNATIONAL NUMBERING SYSTEM FOR FOOD ADDITIVES

84. The Committee noted that the comments received in response to CL 2004/9-FAC had been discussed by the Working Group on the International Numbering System that was chaired by Ms H.C Wallin (Finland), who presented the recommendations of the Working Group.

[21] CX/FAC 05/37/11(Comments submitted in response to CL 2004/9-FAC by Cuba). CRD 3 (Report of the Working Group in the International Numbering System).

REPORT OF THE WORKING GROUP ON THE INTERNATIONAL NUMBERING SYSTEM

85. The Chair of the Working Group reported to the Committee, that the INS, established in 1989, was initiated by this Committee for the purpose of labelling in ingredient lists, so that a number could be used instead of complex chemical names of food additives. The Committee was also reminded that the INS was intended as an identification system for food additives approved for use in one or more member countries and that assigning of an INS number did not imply technological approval by Codex. Rather, the number was only a means of identifying individual food additives on a world-wide basis. The list extended well beyond those additives currently evaluated by JECFA.

86. The Committee agreed to the following recommendations of the Working Group:

(a) to assign INS 161h to the colour Zeaxanthin (synthetic);

(b) to change the additive name under INS 960 "Stevioside" to "Steviol glycosides";

(c) to delete INS number 472f from the INS;

(d) to assign INS number 1204 to the glazing and film-forming agent Pullulan

87. With regard to the definition of the functional class "Sweetener", it was noted that the Working Group had discussed whether or not it would be appropriate to revise the definition of the functional class "Sweetener" so that it could include the sugar D-Tagatose into the definition. The Committee agreed with the recommendation of the Working Group that it was not appropriate for the time being to make any changes in the definition, since the Committee is considering new work covering revision of several sections in the INS list.

Status of the Amendments to the International Numbering System for Food Additives

88. The Committee agreed to forward the proposed draft amendments to the International Numbering System for Food Additives to the 28th Session of the Codex Alimentarius Commission for adoption at Step5/8 (with recommendation to omit Step 6 and 7) (see Appendix XIII).

DISCUSSION PAPER ON THE HARMONIZATION OF TERMS USED BY CODEX AND JECFA (Agenda Item 8)[22]

DISCUSSION PAPER ON CARRIERS (Agenda Item 9)[23]

89. The 36th Session of the CCFAC agreed to harmonise the functional classes listed in the adopted and non-adopted provisions of the GSFA with the INS Table of Functional Classes and accepted the recommendations of the Working Group on the INS to: (a) establish a Working Group under the direction of the United Kingdom to prepare a working document containing a clear proposal for the harmonisation of terms used by Codex and JECFA for circulation, comments, and consideration at its next session; and, (b) establish a separate Working Group on the Harmonization of Terms Used by Codex and JECFA to meet immediately prior to the next session of CCFAC, to discuss the working document produced by the Working Group and provide advice to the Committee. [24]

90. The meeting of the *ad hoc* Working Group on the Harmonization of Terms, held on 23 April 2005, was chaired by Dr D.B. Whitehouse (United Kingdom), assisted by Ms H.C. Wallin (Finland) as Rapporteur.

91. The Committee noted that the *ad hoc* Working Group had prepared a revision of Section II "Table of functional classes, definitions and technological functions" of "Codex Class Names and International Numbering System for Food Additives" (CAC/GL 36-1989, Rev. 6-2001). The revised text included five new functional classes and related definitions and sub-classes, namely, bleaching agent, carbonating agent, carrier, packaging gas, and sequestrant.

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22 CX/FAC 05/37/12; CX/FAC 05/37/12-Add.1 (Comments by Brazil, Chile, European Community, United States, Venezuela and ELC); CRD 4 (Report of the Working Group on the Harmonization of Terms Used by Codex and JECFA).

23 CX/FAC 05/37/13; CX/FAC 05/37/13-Add.1 (Comments by Brazil, Canada, Chile, European Community, United States, Venezuela and ELC).

24 ALINORM 04/27/12, para. 107.

92. The Committee revised the proposal prepared by the *ad hoc* Working Group and deleted "non-flour use" from the functional classes "Bleaching agent" as more appropriate to the definition. The Committee also agreed to retain in the definition for "sweetener" the term "non-sugar food additives".

93. The Committee noted the reservation of the delegations of Switzerland and United States and of some observers that the food additive class for "Carrier" was not appropriate and needed further elaboration. Concern was also expressed as to the inclusion in the list of "Packaging Gas" as these substances were not considered to be consistent with the definition of food additives. It was also observed that the reference to specific types of food, such as cheese, in the definition of "Emulsifying salt" and "microorganisms" in that of "Preservatives" could inappropriately narrow the scope of these functional classes. It was also mentioned that other options should be indicated for "carriers" other than their inclusion in the food additive functional class, as proposed in CX/FAC 04/36/10.

94. The Committee endorsed the recommendation of the *ad hoc* Working Group to start new work on the revision of the "Class Names and International Numbering System for Food Additives (CAC/GL 36-2003)" and to submit a project document for new work to the 28th Session of the Commission for this purpose (see Appendix XIV). It further agreed that, subject to the approval of new work, the revised Section II "Table of functional classes, definitions and technological functions" of "Codex Class Names and International Numbering System for Food Additives", as contained in CRD 4, would be circulated for comments at Step 3 with the understanding the Table was subject to further elaboration by the Committee.

95. The Committee agreed to reconvene the *ad hoc* Working Group on Harmonization of Terms used by Codex and JECFA prior to its 38th Session under the Chairmanship of the United Kingdom to consider the revised Section II along with comments submitted at Step 3.

INVENTORY OF PROCESSING AIDS (IPA) (Agenda Item 10)[25]

96. The 36th Session of the CCFAC agreed to maintain the IPA for the time being and decided that New Zealand would prepare an updated version of the IPA for consideration at its next session. The delegation of New Zealand presented working document CX/FAC 05/37/14 that included the updated IPA with new processing aid uses as published in the reports of the past sessions of CCFAC (from 32nd to 36th included).

97. The Committee expressed appreciation to the delegation of New Zealand. The delegation of India proposed reformatting of the IPA into three sections: i) "processing aids evaluated by JECFA as safe"; ii) "processing aids not yet evaluated by JECFA"; iii) "processing aids finally approved" in order that the IPA become an useful reference for developing countries for elaborating their own standards. The Committee did not support the proposal by stressing that IPA was not a Codex text and it was only intended to be a useful reference for countries and was not subject to any review or scrutiny.

98. The Delegation of the United States proposed the addition to the inventory of isobutane for use as a propellant in vegetable oil pan spray (for professional use only) and in water-based emulsion spray. The Delegation of Malaysia proposed replacement of the reference to cottonseed and soy used in the names of oils with 'partially hydrogenated vegetable oil' under the category of "Lubricants, release and anti-stick agents, moulding aids" in Appendix A. The Delegation also proposed amendment of the term 'Fatty acids of tallow, of cottonseed and of soybean oil' to 'Fatty acids of tallow and of vegetable oils' in all the names of vegetable oils in Appendix A. The delegation further proposed to include in Appendix B a column for "Substrate" to identify the source (origin) of the substrate to ensure the safety and quality of microbial enzymes and to provide information to consumers.

99. The Committee accepted the offer of the Delegation of New Zealand to prepare a further updated version of IPA which would also include the proposals made at the current meeting for consideration at the next session of the Committee. It further agreed that an introductory text with an explanation of changes, suggestions on the use of IPA and possible future work would be included in this document.

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25 CX/FAC 05/37/14; CX/FAC 05/37/14-Add.1 (Comments by Cuba, EC, ELC); CRD 21 (Malaysia); CRD 27 (India); CRD 28 (Indonesia).

DISCUSSION PAPER ON FLAVOURING AGENTS (Agenda Item 11)[26]

100. The 36th Session of the CCFAC agreed that a Working Group led by the United States would prepare a discussion paper, to consider possible options to integrate flavouring agents into the Codex system for circulation, comments, and consideration at its next session.[27]

101. The Delegation of the United States introduced the document, which contained five possible ways to proceed with the integration process. During its discussion, the Committee agreed to take the fourth option, which meant initiating new work on the elaboration of a Codex Guideline for the Use of Flavouring Substances and Natural Flavouring Complexes that establishes safe conditions of use for flavouring substances and natural flavouring complexes in foods similar to the principles for the safe use of food additives contained in the Preamble of the Codex General Standard for Food Additives (GSFA), and with a reference to the evaluations completed by JECFA.

102. The Committee established an electronic Working Group, led by the United States[28], to prepare a discussion paper on the development of Guidelines, taking into account the various terms and definitions used in Codex related to 'flavourings'. The discussion paper will also include a project document for starting new work for possible submission to the Codex Alimentarius Commission.

DISCUSSION PAPER ON THE TERMS OF REFERENCE FOR THE FAO/WHO JOINT EXPERT CONSULATATION TO CONDUCT A COMPREHENSIVE ASSESSMENT OF USE OF ACTIVE CHLORINE (ASPECTS RELEVANT TO CCFAC) (Agenda Item 12)[29]

103. The 36th Session of the CCFAC agreed to request FAO and WHO to convene a Joint Expert Consultation to conduct a comprehensive assessment of use of active chlorine, taking into account both benefits and risks. In recognizing the multiple aspects of the use of active chlorine, the Committee agreed on the need to clearly define the scope of the Expert Consultation. Therefore, it agreed that a Working Group led by Denmark would prepare clear terms of reference for the expert consultation for the aspects relevant to the CCFAC for discussion at its next session, while requesting the relevant Committees to consider safety/benefit issues pertinent to the uses of active chlorine within their respective purviews and to elaborate terms of reference within their mandate. [30] In this regard, the Committee noted that the 37th Session of the Codex Committee on Food Hygiene (CCFH) had agreed on the terms of reference of the expert consultation for the aspects relevant to its work.[31]

104. The delegation of Denmark introduced the document and informed the Committee that the discussion paper had been prepared by the United States. The document developed draft terms of reference and focused on identifying specific active chlorine treatments and their conditions of use, as well as the commodities subjected to such treatments. The document also identified the need for collecting more information from countries in relation to the uses of active chlorine interventions in or upon food.

105. The Committee expressed strong support for holding a joint FAO/WHO expert consultation, as the use of active chlorine was relevant to many countries. The Committee considered a revised version of the terms of reference, as proposed by the United States in document CX/FAC 05/37/16-Add.1. It agreed to delete reference to "organoleptic effects" in point (e) as it was considered not to be within its mandate. The Committee did not support the suggestion to include in the terms of reference aspects dealing with antimicrobial resistance and noted that these aspects were already covered by the terms of reference prepared by the CCFH.

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26 CX/FAC 05/37/15; CX/FAC 05/37/15-Add.1 (Comments by Argentina, Brazil, Canada, Cuba, European Community, United States, ICBA and IOFI); CRD 27 (Comments by India); CRD 28 (Comments by Indonesia).

27 ALINORM 04/27/12, para. 215.

28 With the assistance of Australia, Austria, Denmark, European Community, France, India, Italy, Japan, Norway, Switzerland, United Kingdom, ICBA, ICDI, and IOFI

29 CX/FAC 05/37/16; CX/FAC 05/37/16-Add.1 (Comments by Cuba and United States); CX/FAC 05/37/16-Add.2 (Comments by IFU); CRD 15 (Comments by Sweden).

30 ALINORM 04/27/12, para. 92.

31 ALINORM 05/28/13, para. 173 and Appendix VI

106. The JECFA Secretariat stated that an FAO/WHO expert consultation had not been scheduled as funds had not yet been committed and the request had not been prioritized by the Codex Alimentarius Commission within all requests for scientific advice of Codex Committees. It was also pointed out that once funds were secured for this purpose, the preparation of the expert consultation would take approximately at least one year due to the complexity of the subject. It was also highlighted that the document provided important information to be used in the preparation of the consultation.

107. The Committee requested countries to collect information on uses of active chlorine with a view of submitting these data in response to the eventual call of data that would be circulated by FAO/WHO, once the expert consultation is scheduled.

108. The Committee concluded the discussion by agreeing to forward the revised terms of reference and background information contained in document CX/FAC 05/37/16 and CX/FAC 05/37/16-Add.1, to the 28th Session of the Commission for transmission to FAO and WHO (see Appendix XV), along with the terms of reference prepared by the CCFH.

SPECIFICATIONS FOR THE IDENTITY AND PURITY OF FOOD ADDITIVES (Agenda Item 13)[32]

REPORT OF THE *AD HOC* WORKING GROUP ON SPECIFICATIONS

109. The 36th Session of the CCFAC had decided to reconvene the *ad hoc* Working Group on Specifications prior to its current session under the Chairmanship of the United States.

110. The *ad hoc* Working Group met on 23 April 2005. It was chaired by Dr Paul Kuznesof (United States). Ms H.C. Wallin (Finland) acted as Rapporteur and Ms I. Meyland (Denmark) acted as Category Monitor. The *ad hoc* Working Group considered the monographs for Specification for the Identity and Purity of Food Additives and Flavouring Agents established at the 63rd Meeting of JECFA and published in Food and Nutrition Paper 52 Addendum 12 (FNS 52-Add.12), along with comments received on this document. The Committee was informed that, at its 63rd meeting, JECFA had completed its review and updating of all specifications for arsenic and heavy metals that had not been reviewed during previous meetings.

111. The *ad hoc* Working Group assigned the monographs to categories to facilitate the work of the full Committee in deciding on the endorsement of the specifications. In addition, it also considered comments of the 63rd JECFA on "Principles governing the establishment and revision of specification".

Status of the *ad hoc* Working Group on Specifications

112. The Committee decided to reconvene the ad hoc Working Group on Specifications prior to its next session under the Chairmanship of the United States.

SPECIFICATIONS FOR THE IDENTITY AND PURITY OF FOOD ADDITIVES ARISING FROM THE 63RD JECFA MEETING

113. The Committee agreed with the following recommendations of the *ad hoc* Working Group.

(a) to endorse and forward the specifications of 12 Category I additives and 192 Category I flavouring agents to the Commission for adoption as Codex Advisory Specifications;

(b) to assign the specifications of 3 additives with editorial changes to Category II and to endorse and forward them to the Commission for adoption as Codex Advisory Specifications;

(c) to refer back to JECFA the specifications of 2 additives in Category III for further revision;

(d) to endorse and forward the updated limits for arsenic, lead and the other heavy metals and deletions of the Heavy Metals (as lead) limits for 71 additives to the Commission for adoption as revisions to existing Codex Advisory Specifications.

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32 CX/FAC 05/37/17; CX/FAC 05/37/17-Add. 1 (Comments by United States). CRD 5 (Report of the *ad hoc* Working Group on Specifications).

Status of the Specification for the Identity and Purity of Food Additives arising from the 63rd JECFA Meeting

114. The Committee agreed to forward Specifications for the Identity and Purity of Food Additives arising from the 63rd JECFA meeting in Categories I and II to the 28th Session of the Commission for adoption at Step 5/8 (with recommendation to omit Step 6 and 7) as Codex Advisory Specifications (see Appendix XVI).

ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVELS FOR CONTAMINANTS IN CODEX STANDARDS (Agenda Item 14)[33]

115. In accordance with the section concerning Relations between Commodity Committees and General Committees of the Codex Alimentarius Commission Procedural Manual, all provisions in respect to contaminants contained in Codex commodity standards should be referred to the Codex Committee on Additives and Contaminants for endorsement.

116. The Committee noted that no maximum levels for contaminants had been submitted for endorsement since its 35th Session and, therefore, no action was required.

CONSIDERATION OF THE CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOODS (Agenda Item 15)

REPORT OF THE *AD HOC* WORKING GROUP ON CONTAMINANTS AND TOXINS IN FOODS (Agenda Item 15a)[34]

117. The 36th Session of the CCFAC agreed to reconvene the *ad hoc* Working Group on Contaminants and Toxins in Foods prior to its 37th Session under the Chairmanship of the European Community. [35]

118. The *ad hoc* Working Group, chaired by Mr Frans Verstraete, met on 24 April 2005. Dr Paul Brent (Australia), Dr Rob Theelen (the Netherlands) and Dr Maria Cecilia Toledo (Brazil) acted as Rapporteur. The Chairperson of the *ad hoc* Working Group briefly summarized the discussions and recommendations of the Working Group meeting, held on 24 April 2005. In addition to recommendations related to specific agenda items, the Committee discussed the following matters.

List of Maximum Levels and Guideline Levels contained in Commodities Standards to be deleted

119. The Committee agreed with the recommendation of the *ad hoc* Working Group to request the 28th Session of the Commission to delete the maximum levels for lead in specific commodity Codex Standards for fruit juices and nectars and for processed meat products (see Appendix XVII) and to amend Schedule I accordingly. While making this request, the Committee noted that all specific commodity Codex Standards for fruits juices and nectars would be revoked when the draft Codex General Standard for Fruit Juices and Nectars was adopted by the Codex Alimentarius Commission.

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33 ALINORM 05/36/18 (not issued).
34 CRD 6.
35 ALINORM 04/27/12, para. 114.

Concentration Effects (request for CCPFV)

120. The Committee considered the recommendation of the *ad hoc* Working Group in reply to the request of the 22nd Session of the Codex Committee on Processed Fruits and Vegetables (CCPFV) regarding the concentration factor for contaminants in Codex standards for processed fruits and vegetables[36]. The Committee noted that processed products could result from the combination of several products and that the application of good manufacturing practices should be also considered in order to reduce contamination. It noted that a concentration factor had been considered in the Maximum Level for Lead in Milk (CODEX STAN 230-2001, Rev. 1-2003) to which a footnote was added to state that "a concentration factor applies for partially or wholly dehydrated milk". It was also noted that the CCFAC did not have sufficient resources to determine the concentration factors for all contaminants-processed products combinations and that it was preferable to have a general provision that applies to processed products, while not preventing CCFAC to establish a specific value for a processed product when necessary. It was also indicated that Annex I of the GSCTF provided general guidance regarding maximum levels of contaminants and toxins in processed products.

121. Therefore, the Committee agreed with the recommendation of the *ad hoc* Working Group to confirm to the CCPFV that the maximum levels apply to raw products and that, in the absence of a specific level for processed products, a processing (concentration/dilution) factor should be applied to processed products taking into account the specific properties of the contaminant.

Status of the *ad hoc* Working Group on Contaminants and Toxins in Foods

122. The Committee agreed to reconvene the *ad hoc* Working Group on Contaminants and Toxins in Foods prior to its 38th Session under the Chairmanship of the European Community.

SCHEDULE I OF THE GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOODS (Agenda Item 15b)[37]

123. The 36th Session of the CCFAC agreed to include Schedule I in the format presented in working document CX/FAC 04/36/16. It was noted that some editorial amendments needed to be made before its inclusion in the GSCTF and the Committee agreed to entrust this work to the Codex and JECFA Secretariats, the latter to correct the references to toxicological intake. The Committee agreed that the information encompassing contaminants and toxins for which maximum levels had been developed or were being developed in Codex, should be part of a working document to be updated yearly and presented at each session of the Committee for information and in support of discussions on the GSCTF.[38]

124. The Committee endorsed the recommendations of the *ad hoc* Working Group on Contaminants and Toxins:

- to append Schedule I to the GSCTF with the approved modifications regarding the correspondence between commodity codes and descriptions regarding and the deletion of all references to commodity standards;
- to request the 28th Session of the Commission to revoke the existing individual Codex standards for Maximum/Guideline Levels for contaminants and toxins (see Appendix XVIII);
- to append Schedule II to the GSCTF as an empty annex awaiting the finalization of the food categorization system; and,
- to integrate the Annotated List of Contaminants and Toxins in Foods (Part 1 and Part 2) into a separate document "Working document for information and use in discussions on the GSCTF".

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36 CX/FAC 05/37/2, para. 43.
37 CX/FAC 05/37/19.
38 ALINORM 04/27/12, paras 117 and 119.

125. The Delegations of Japan and the Netherlands agreed to revise the document, using a suitable database, for presentation at the next session of the Committee.

PROPOSED DRAFT REVISION OF THE CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOODS (Agenda Item 15c)[39]

126. The Committee was informed that the 27th Session of the Commission approved the revision of the General Standard for Contaminants and Toxins in Foods to include those relevant paragraphs in the CCFAC Policy for Exposure Assessment of Contaminants and Toxins in Foods or Food Group as new work for the Committee (N09-2004).[40] The 36th Session of the Committee further agreed to entrust this work to a Working Group led by Japan for circulation, comments, and consideration at its next session.[41]

127. The Committee endorsed the recommendation of the *ad hoc* Working Group on Contaminants and Toxins to integrate the proposed modification in the Preamble of the GSCTF.

Status of the Proposed Draft Revision of the Preamble of the Codex General Standard for Contaminants and Toxins in Foods

128. The Committee agreed to forward the proposed draft revision to the 28th Session of the Commission for adoption at Step 5/8 (with recommendation to omit Steps 6 and 7) (see Appendix XIX).

MYCOTOXINS IN FOOD AND FEED (Agenda Item 16)

DRAFT CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF AFLATOXIN CONTAMINATION IN TREE NUTS (Agenda Item 16a)[42]

129. The 27th Session of the Codex Alimentarius Commission adopted the proposed draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts at Step 5 and advanced it to Step 6 as proposed by the 36th Session of the CCFAC. [43]

130. The Committee agreed with the amendments to the draft Code proposed by the *ad hoc* Working Group on Contaminants and Toxins, which took into account the comments submitted at Step 6.

131. The Committee decided to elaborate an Appendix to the draft Code of Practice to cover the specific aspect of Brazil Nuts and, for this purpose, to submit a project document for new work to the 28th Session of the Commission (see Appendix XX) . It further agreed that, subject to the approval of the Commission, an electronic Working Group, led by Brazil[44], would prepare a proposed draft Appendix for circulation, comments at Step 3 and consideration at its next session.

Status of the draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts

132. The Committee agreed to forward the draft Code of Practice to the 28th Session of the Commission for adoption at Step 8 (see Appendix XXI).

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39 CX/FAC 05/37/20; CX/FAC 05/37/20-Add.1 (Comments at Step 3 submitted by Brazil and Cuba); CRD 27 (Comments by India).

40 ALINORM 04/27/41, para. 88 and Appendix VI.

41 ALINORM 04/27/12, para. 126.

42 ALINORM 04/27/12, Appendix XX; CX/FAC 05/37/21 (Comments submitted in response to CL 2004/27-FAC by Brazil and Venezuela); CRD 13 (Comments by European Community).

43 ALINORM 04/27/41, para. 69 and Appendix IV.

44 With the assistance of China, United States, FAO and INC.

PROPOSED DRAFT MAXIMUM LEVELS FOR AFLATOXINS IN UNPROCESSED AND PROCESSED ALMONDS, HAZELNUTS AND PISTACHIOS (Agenda Item 16b)[45]

133. The 36th Session of the CCFAC agreed to set up a proposed draft maximum level of 15 µg/kg (total aflatoxins) for unprocessed and processed almonds, hazelnuts, and pistachios, and to circulate it for comments at Step 3 and consideration at its next session.[46]

134. The Committee had a discussion as to whether maximum levels should be established for processed and unprocessed tree nuts (almonds, hazelnuts and pistachios) individually or in combination.

135. In light of the conclusion of the JECFA evaluation[47] that it was unlikely that significant differences in health risks in a normal population would derive from maximum levels between 10 and 20 µg/kg for total aflatoxins in groundnuts, maize and their products, many delegations supported the establishment of a maximum level of 15 µg/kg for total aflatoxins in both processed and unprocessed almonds, hazelnuts and pistachios. It was pointed out that the same maximum level of 15 µg/kg was established for aflatoxins in peanuts intended for further processing (CAC/STAN 232-2001) and that the level of 15 µg/kg in both processed and unprocessed almonds, hazelnuts and pistachios was sufficient to protect human health as almonds, hazelnuts, and pistachios were consumed at lower levels than peanuts.

136. Some delegations supported the establishment of a maximum level for aflatoxin B1 only, since aflatoxin B1 was the most toxic aflatoxin and it was easier to analyze than total aflatoxins. However, several delegations opposed to this proposal due to the wide variation observed in the ratio between aflatoxin B1 and total aflatoxins, caused by several factors (crop year, variety, weather).

137. The delegation of the European Community pointed out that maximum levels for aflatoxins should be set by following the ALARA Principle and opposed to the establishment of the same level for both processed and unprocessed tree nuts (almonds, hazelnuts and pistachios), since processing would significantly reduce the level. The delegation also expressed the view that the d*raft Codex Code of Practice for the Prevention and Reduction of Aflatoxin in Tree Nuts*, once adopted and put into practice, would contribute to reducing the aflatoxin levels and would make it possible to accept lower maximum levels. In this regard, different views were expressed as to the effects of sorting process in reducing the level of aflatoxin in tree nuts. It was noted that following good practices at the production, storage and processing stages might not reduce sufficiently the contamination level to meet a lower maximum level.

138. The delegations of Iran and India proposed to set a maximum level of 15 µg/kg for both processed and unprocessed tree nuts (almonds, hazelnuts and pistachios) in view of both food safety and fair trade aspects.

139. The Committee considered the proposal from the delegation of Iran to request JECFA to conduct an exposure assessment for tree nuts (almonds, hazelnuts and pistachios) given the low per capita consumption. However, the JECFA Secretariat pointed out that JECFA at its 49th meeting has already carried out a complete quantitative risk assessment, which did not show an increased cancer risk when considering levels of 10 µg/kg and 20 µg/kg aflatoxin B1..

140. As a result of the extensive discussion, the Committee recognized that it could only make progress with the a maximum level of 15 µg/kg (total aflatoxins) for unprocessed tree nuts (almond, hazelnuts and pistachios). The Committee also decided to postpone the discussion on maximum level for processed tree nuts (almond, hazelnuts and pistachios) to the next session and established an electronic Working Group, led by the European Community and Iran[48], to prepare a discussion paper with a proposal for a maximum level for aflatoxins in processed almonds, hazelnuts and pistachios, with appropriate justification, for circulation, comments and consideration at its next session.. The delegation of Iran expressed its strong reservation to the decision to consider two separate maximum levels for processed and unprocessed tree nuts (almonds, hazelnuts and pistachios) progressing separately in the Step procedure.

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45 ALINORM 04/27/12, Appendix XXV; CX/FAC 05/37/22 (Comments at Step 3 submitted in response to CL 2004/9-FAC by Argentina, European Community, Japan and ITNC); CX/FAC 05/37/22-Add.1 (Comments by Cuba, European Community, Iran and United States); CRD 25 (Comments from Paraguay), CRD 27 (Comments by India); CRD 28 (Comments by Indonesia).

46 ALINORM 04/27/12, para. 155.

47 WHO Technical Report Series 884, 49th JECFA meeting, 1997.

48 With the assistance of Japan, Turkey, United Kingdom, United States and INC.

Status of the proposed draft Maximum Levels for Aflatoxins in Unprocessed and Processed Almonds, Hazelnuts and Pistachios

141. The Committee agreed to forward a maximum level of total aflatoxins in unprocessed almonds, hazelnuts, and pistachios to the 28th Session of the Codex Alimentarius Commission for adoption at Step 5. The Committee also decided to circulate for comments at Step 3 the proposed draft maximum level of total aflatoxins in processed almonds, hazelnuts, and pistachios (see Appendix XXII).

PROPOSED DRAFT SAMPLING PLAN FOR AFLATOXIN CONTAMINATION IN ALMONDS, BRAZIL NUTS, HAZELNUTS AND PISTACHIOS (Agenda Item 16c)[49]

142. The Committee was informed that the 27th Session of the Codex Alimentarius Commission had approved the elaboration of proposed draft Sampling Plans for Aflatoxin Contamination in Almonds, Brazil Nuts, Hazelnuts and Pistachios as new work for the Committee (N07-2004).[50]

143. The Committee noted that the *ad hoc* Working Group on Contaminants and Toxins discussed the draft sampling plan, which was developed using data for almonds. It noted that data for hazelnuts had been submitted and that additional work on the sampling plan depended upon the determination of a maximum level and additional information on aflatoxin distribution in pistachios and Brazil nuts (in-shell/shelled).

Status of the proposed draft Sampling Plan for Aflatoxin Contamination in Almonds, Brazil Nuts, Hazelnuts and Pistachios (N07-2004)

144. The Committee returned to Step 2 the proposed draft Sampling Plan for Aflatoxin Contamination in Almonds, Brazil nuts, Hazelnuts and Pistachios. It also agreed to request an electronic Working Group, led by the United States[51], to revise the document on the basis of new information becoming available in future, for circulation and comments at Step 3, and consideration at its next session.

DISCUSSION PAPER ON AFLATOXIN CONTAMINATION IN BRAZIL NUTS (Agenda Item 16d)[52]

145. The 36th Session of the CCFAC had agreed that the Delegation of Iran would prepare a revised Discussion Paper on Aflatoxin Contamination in Brazil Nuts, which should consider, in-shell/shelled (peeled/unpeeled) Brazil Nuts. The revision, for circulation, comments and consideration at its current session, should take into account the ALARA Principle with due consideration of the JECFA assessment.

146. The Chair of the *ad hoc* Working Group on Contaminants and Toxins reported to the Committee that the discussion on this item which also considered the comments submitted. The Committee agreed with the recommendation of the *ad hoc* Working Group to continue work on aflatoxin contamination in Brazil Nuts as new comprehensive data had become available.

147. The Committee agreed to establish a new electronic Working Group, led by Brazil[53] to prepare a revised Discussion Paper for consideration at its next session.

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49 CX/FAC 05/37/23; CX/FAC 05/37/23-Add.1 (Comments at Step 3 submitted by Brazil); CRD 13 (Comments by European Community).

50 ALINORM 04/27/41, para. 88 and Appendix VI.

51 With assistance of Argentina, Brazil, Iran, European Community, and INC

52 CX/FAC 05/37/24; CX/FAC 05/37/24-Add.1 (Comments submitted by Argentina, Bolivia, Brazil and Cuba); CRD 13 (Comments by European Community); CRD 17 (Comments by Brazil).

53 With the assistance of Iran, United States and INC.

DEOXYNIVALENOL (DON) CONTAMINATION IN CEREALS (INFORMATION SUBMITTED IN RESPONSE TO CL 2004/9-FAC) (Agenda Item 16e)[54]

148. The 36th Session of the CCFAC agreed to discontinue consideration of maximum levels for deoxynivalenol for the time being. Instead, it agreed to request information on: the occurrence of DON in cereals; the influence of processing, decontamination, sorting, in lowering DON levels; national levels or guideline levels for DON; and sampling procedures and methods of analysis, for consideration by its next session.[55]

149. The Committee noted that many data on the occurrence of DON in cereals and processed cereal products were already available or would soon be made available on a more global basis. The Committee therefore decided to ask JECFA to conduct an exposure assessment based on the new data. In this regard, the Committee reconfirmed the importance to take into account processed foods and the effects of processing on the level of DON.

150. The Committee decided to establish an electronic Working Group[56] led by the United States to develop a discussion paper to provide comprehensive relevant data, including the occurrence of deoxynivalenol and the effects of processing on the levels of DON, for consideration at its next session.

MYCOTOXIN CONTAMINATION IN SORGHUM – INFORMATION SUBMITTED IN RESPONSE TO CL 2004/9-FAC (Agenda Item 16f) [57]

151. The Committee noted that at its 36th Session it had agreed to request information on: source of contamination; type of mycotoxin involved; analytical methods and sampling procedures; consumer protection from the point of view of health; actual and potential problems in international trade; work already undertaken by other international organizations; etc. for discussion at its next session. [58]

152. The Committee noted that only Japan has submitted limited information in response to the request. It also noted that the provisions of the Code of Practice for the Prevention and Reduction of Mycotoxin Contamination in Cereals, including annexes on Ochratoxin A, Zearalenone, Fumonisin and Trichothecenes (CAC/RCP 51-2003) were applicable to prevent mycotoxin contamination in sorghum.

153. The Committee agreed to discontinue this work as it could not identify a delegation willing to prepare a discussion paper on this matter.

INDUSTRIAL AND ENVIRONMENTAL CONTAMINANTS IN FOODS (AGENDA ITEM 17)

DRAFT MAXIMUM LEVEL FOR LEAD IN FISH (Agenda Item 17a)[59]

154. The 36th Session of the CCFAC agreed to retain the draft maximum level of 0.2 mg/kg for lead in fish at Step 7 and to review the level at its next session in the light of the results of the assessment of the 53rd JECFA Meeting, the list of the main internationally traded fish to be elaborated by Denmark, and comments received.[60]

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54 CX/FAC 05/37/25 (Information submitted in response to CL 2004/9-FAC by Argentina, European Community and Japan); CX/FAC 05/37/25-Add.1 (Information submitted by Cuba, European Community, Japan and United States); CRD 18 (Japan);CRD 25 (Paraguay); CRD 27 (India);CRD 28 (Indonesia).

55 ALINORM 04/27/12, para. 158.

56 With assistance of Belgium, Canada, European Community, Finland, France, Germany, Japan, Republic of Korea, Netherlands, United Kingdom and ICGMA.

57 CX/FAC 05/37/26

58 ALINORM 04/27/12, para. 160.

59 CX/FAC 05/37/27; CX/FAC 05/37/26-Add.1 (comments by Cuba, Egypt, Philippines);CRD 27 (Comments by India);CRD 28 (Comments by Indonesia).

60 ALINORM 04/27/12, para. 165.

155. The Committee considered the recommendation of the *ad hoc* Working Group on Contaminants and Toxins that either a maximum level be set for a limited number of 5 to 10 species important to vulnerable populations (children) or that a single maximum level be set for all fish. Many delegations supported a single maximum level for all fish because of the difficulty in setting acceptable criteria to identify important species due to regional variations in the level of contamination, differences in consumption patterns and possible trade problems that might be caused by such a list. The delegation of Denmark, referring to working document CX/FAC 05/37/27, proposed to develop a short list focusing on the species consumed by children.

156. The Committee recalled that this item had been discussed for many years and various approaches had been attempted without making appreciable progress. In view of this, the Committee decided not to develop a list of fish and to consider setting a maximum level for lead in a range between 0.2-0.5 mg/kg for all fish, taking into account the results of the 53rd JECFA, the WHO data on lead contamination in fish[61], and other relevant information such as those provided at the 36th Session of CCFAC. For this purpose, the Committee agreed to request an electronic Working Group, led by the Philippines[62], to prepare a discussion paper that compiles the information necessary to develop an appropriate maximum level for lead in fish for consideration at its next session. The Representative of WHO Secretariat expressed the willingness to cooperate with this process by providing data and asked members to submit data to WHO.

Status of the draft Maximum Level for Lead in Fish

157. The Committee agreed to retain the draft maximum level of 0.2 mg/kg for lead in fish at Step 7 (see Appendix XXIII) and to decide the level at its next session based on the information contained in the discussion paper.

PROPOSED DRAFT MAXIMUM LEVELS FOR TIN (Agenda Item 17b)[63]

158. In view of the next JECFA re-evaluation, the 36th Session of the CCFAC decided to hold the current levels of 250 mg/kg (canned foods other than beverages) and 200 mg/kg (canned beverages) at Step 4 and reconsider these levels in the light of the 64th JECFA re-evaluation. [64]

159. The JECFA Secretariat informed the Committee that the 64th JECFA meeting concluded that the data available indicated that it was inappropriate to establish an ARfD for inorganic tin, since whether or not irritation of the gastrointestinal tract occurs after ingestion of a food containing tin depends on the concentration and nature of tin in the product, rather than on the dose ingested on a body-weight basis. The 64th JECFA meeting reiterated the opinion, expressed at its 36th and 55th meetings, that the available data for humans indicated that inorganic tin at concentrations of >150 mg/kg in canned beverages or 250 mg/kg in canned foods might produce acute manifestations of gastric irritation in certain individuals. Therefore ingestion of reasonably sized portions containing inorganic tin at concentrations equal to the proposed standard for canned beverages (200 mg/kg) might lead to adverse reactions. No information was available as to whether there were particular sub-populations sensitive for such adverse reactions. The Committee noted that the draft full report of the 64th JECFA meeting would soon be made available in electronic format.

160. The delegation of the European Community reiterated the comments made at the 36th Session that tin can cause gastric irritation in some individuals when present in beverages above 150 mg/kg and when present in other canned foods from 250 mg/kg upwards and that levels must be set at levels which are lower to those which can cause acute toxicity to protect the safety of consumers and, in particular, to protect those individuals who might be sensitive to tin. The delegations of the European Community and Norway proposed that maximum levels should be 200 mg/kg in “canned food other than beverages” and 100 mg/kg in “canned beverages” and that these levels have been shown to be readily achievable.

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61 www.who.int/foodsafety/chem/gems/en/

62 With assistance of Australia, Denmark, European Community, India, Japan, Republic of Korea, New Zealand, South Africa, Spain, Thailand, United Kingdom, United States, WHO.

63 ALINORM 04/27/12, Appendix XXIV; CRD 13 (Comments by European Community); CRD 27 (Comments by India); CRD 28 (Comments by Indonesia).

64 ALINORM 04/27/12, para. 171.

161. Many delegations supported maximum levels of 250 mg/kg and 200 mg/kg in canned food (other than beverages) and canned beverages, respectively, as these levels were in line with the objective of Codex to protect consumer's health and facilitate international trade. It was noted that higher maximum levels of tin were necessary in countries with elevated temperature and humidity and high seasonal variation, as lower maximum levels could result in reduction of product shelf life. The important functional effects of tin were also pointed out.

162. In view of the results of the 64th JECFA meeting, many delegations expressed support for levels of 250 mg/kg and 150 mg/kg. It was also noted that the Committee's decision to establish maximum levels should be in compliance with the "Risk Analysis Principles applied by the CCFAC", finalised by the 36th Session of the CCFAC and endorsed by the 21st Session of the Codex Committee on General Principles (CCGP), which require that CCFAC base its risk management recommendations to the Codex Alimentarius Commission on JECFA' s risk assessments, including safety assessments.

Status of the proposed draft Maximum Levels for Tin

163. The Committee agreed to circulate the proposed maximum levels for tin for comments at Step 3 and further consideration at its next meeting (see Appendix XXIV). The delegation of the European Community expressed reservation to the maximum level 250 mg/kg for canned food (other than beverages) and 150 mg/kg in canned beverages.

DRAFT CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF TIN CONTAMINATION IN CANNED FOODS (Agenda Item 17c)[65]

164. The 27th Session of the Codex Alimentarius Commission adopted the proposed draft Code of Practice for the Prevention and Reduction of Inorganic Tin Contamination in Canned Foods at Step 5 and advanced it to Step 6, as proposed by the 36th Session of the CCFAC. [66]

165. The Committee noted that the *ad hoc* Working Group on Contaminants and Toxins discussed the proposed draft Code taking into consideration comments at Step 6 and made the following minor changes:

- replaced square brackets with normal brackets throughout the draft;
- replaced "depolarizes" with "depolarisers" in para. 20;
- changed "during the tinning" to "during the detinning" at the beginning of the 4th line of para. 20;
- changed the range of can cooling temperatures from 35 -38 degrees C to 35-40 degrees C in relevant paragraphs throughout the text.

Status of the draft Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods

166. The Committee agreed to forward the draft Code of Practice to the 28th Session of the Commission for final adoption at Step 8 (see Appendix XXV).

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65 ALINORM 04/27/12, Appendix XXI; CX/FAC 05/37/28 (Comments at Step 6 submitted in response to CL 2004/27-FAC by Cuba, European Community and Venezuela).

66 ALINORM 04/27/41, para. 70 and Appendix IV.

DRAFT AND PROPOSED DRAFT MAXIMUM LEVELS FOR CADMIUM (Agenda Item 17d)[67]

167. The 36th Session of the CCFAC forwarded the proposed draft maximum levels for cadmium in polished rice; wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetables to the Codex Alimentarius for preliminary adoption at Step 5. The proposed draft maximum level for molluscs (including cephalopods) was returned to Step 3 for circulation, comments, and consideration at its next session.[68] The 27th Commission adopted the proposed draft maximum levels for Cadmium as proposed by the 36th Session of the CCFAC at Step 5 and advanced them to Step 6, with the exception of the maximum levels in polished rice, which was returned to Step 3 due to the concern that the maximum level proposed could result in intakes exceeding the PTWI in certain populations.[69]

168. The JECFA Secretariat informed the Committee that the 64th JECFA concluded that the effect of different maximum levels on the overall intake of cadmium would be very small. At the proposed maximum levels, the mean intake of cadmium would be reduced by approximately 1% of the PTWI. The imposition of maximum level one level lower would result in potential reductions in intake of cadmium of no more than 6% (wheat grain, potatoes) of the PTWI. At the proposed maximum levels, no more than 9% of a commodity would be violative (oysters). Maximum levels one level below those proposed would result in approximately 25% of molluscs, potatoes, and other vegetables being violative.

169. The JECFA Secretariat noted, that besides the mean values and impacts of different maximum levels as reported in the summary report, JECFA also used probabilistic intake assessments based on Japanese data for rice. This analysis also resulted in only marginal differences in intake considering levels of 0.2 and 0.4 mg/kg in rice at the 95th and 97.5th percentile of rice consumption.

Draft Maximum Level for Cadmium in wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetables

170. The Committee also considered whether or not to discontinue work on maximum level for leafy vegetables and other vegetables from the draft standard as the JECFA evaluation concluded that leafy vegetables were not major dietary sources of cadmium intake. It was pointed out that a maximum level for each of these commodities was necessary in view of possible contamination from the soil. It was also noted that at its 36th Session CCFAC had discontinued work on developing maximum levels for cadmium in a number of other commodities which were no major contributors to cadmium intake. Therefore, the Committee agreed to proceed with the establishment of maximum levels for these group f products.

171. In this regard, it was noted that the risk management decision of this Committee should be based on the basic principles contained in the draft CCFAC Policy for Exposure Assessment of Contaminants and Toxins in Food or Food Group[70], which established clear criteria for selecting foods/food groups that contribute significantly to total dietary exposure of a contaminant or toxin.

Proposed draft Maximum Level for Cadmium in molluscs

172. The Committee considered proposed draft maximum level for cadmium in molluscs including the option to discontinue work on this commodity. The delegation of European Community opposed to this proposal since the JECFA evaluation concluded that molluscs were contributors to cadmium intake and proposed 1.0 mg/kg for Marine Bivalve Molluscs and for Cephalopods excluding viscera. Some countries supported discontinuation of work on these commodities. Others opposed the proposed maximum levels since the natural occurrence levels of cadmium in molluscs and cephalopods tend to exceed the proposed draft level (1.0mg/kg) and proposed higher levels (2-3 mg/kg). After some discussion, the Committee agreed to forward to Step 5 the maximum level of 1.0 mg/kg for Marine Bivalve Molluscs (excluding oysters, scallops) and Cephalopods (without viscera). The delegations of Chile, Cuba, India, Thailand, Philippines and Venezuela expressed reservations to this decision and recommended a maximum level of 2.0 mg for cephalopods due to the contaminated environment.

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67 ALINORM 04/27/12, Appendix XXIII; CX/FAC 05/37/29 (Comments submitted in response to CL 2004/9-FAC and CL 2004/27-FAC by Australia, Canada, European Community, Japan and South Africa); CX/FAC 05/37/29-Add.1 (Comments by Cuba, Egypt, European Community and Singapore); CRD 11 (Comments by JECFA Secretariat); CRD 16 (Comments by Norway); CRD 27 (Comments by India); CRD 28 (Comments by Indonesia).

68 ALINORM 04/27/12, para. 182.

69 ALINORM 04/27/41, para. 68 and Appendix IV.

70 ALINORM 04/27/12, Appendix XIV.

Proposed draft Maximum Level for Cadmium in polished rice

173. The Committee finally discussed proposed draft maximum level for polished rice. The delegation of Japan proposed retention of the current level 0.4 mg/kg taking into account the outcome of 64th JECFA evaluation. In addition, the dietary intake estimates, conducted by Japan, concluded that 0.4 mg/kg would ensure the protection of consumer health. The delegation of the European Community proposed to revert to the originally proposed level of 0.2 mg/kg in view of the impact of the proposed maximum level of 0.4 mg/kg on the dietary intake for high level consumers, in particular in regions where rice tend to contain higher levels of cadmium on brand-loyal consumers. Some delegations noted that the exposure to a narrow age group, such as children, was an incorrect comparison for the adverse effect on which JECFA based the PTWI, as this adverse effect required very long term exposure.

174. Many delegations supported 0.4 mg/kg. Some of these countries had conducted their own intake assessments and confirmed that this level would not result in adverse effects on consumer health. The Committee decided to advance the proposed draft maximum level of 0.4 mg/kg for cadmium in polished rice to the 28th Session of the Commission for adoption at Step 5. The delegations of the European Community, Egypt, Norway and Singapore expressed reservations to this decision.

Status of the draft and proposed draft Maximum Levels for Cadmium

175. The Committee agreed to advance the draft maximum levels for cadmium in wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetable to the 28th Session of the Commission for adoption at Step 8, the proposed draft maximum levels for cadmium in marine bivalve molluscs (excluding oysters and scallops) and cephalopods (without viscera) and in polished rice to the Commission for adoption at Step 5 (see Appendix XXVI).

PROPOSED DRAFT CODE OF PRACTICE FOR SOURCE DIRECTED MEASURES TO REDUCE DIOXIN AND DIOXIN-LIKE PCB CONTAMINATION IN FOODS (Agenda Item 17e)[71]

176. The 36th Session of the CCFAC returned the proposed draft Code of Practice for Source Directed Measures Dioxin and Dioxin-like PCB Contamination in Foods to Step 2 for revision by a Working Group led by Germany for circulation, comments at Step 3, and further consideration at its next session. [72]

177. The Committee noted that the *ad hoc* Working Group on Contaminants and Toxins had discussed the revised proposed draft Code of Practice taking into consideration extensive comments and had recognized that the further revision was still required before advancing it to Step 5.

178. The Committee agreed that the following points should be taken into account in the revision of the document:

- to change the title to "Code of Practice for the Prevention and Reduction of Dioxin and Dioxin-like PCB Contamination in Foods and Feeds";
- to maintain the general structure of the current document;
- to remove significant references to the application of the POP Convention while maintaining the information on sources and source directed measures;
- to remove, as much as possible, references to establishment of maximum/action levels;
- to ensure that all proposed measures are supported by evidence and to remove measures which cannot be justified/underpinned by information;
- to include a glossary of terms;
- to refer to the Codex Code of Practice on Good Animal Feeding (CAC/RCP 54-2004) where reference is made to good animal feeding practices;
- to address the need to monitor for dioxins while taking into account the expensive nature of the analysis.

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71 CX/FAC 05/37/30; CX/FAC 05/37/30-Add.1 (Comments at Step 3 submitted by Australia, Brazil, Cuba, South Africa, United States and CEFS); CRD 13 (Comments by European Community);CRD 27 (Comments by India).

72 ALINORM 04/27/12, para. 185.

179. The Representative of WHO drew the attention of participants to a meeting, organized by UNEP during the 1st week of May 2005, related to monitoring the Stockholm Convention. The meeting will discuss Dioxin and Dioxin-like PCBs associated with human breast milk.

Status of the proposed draft Code of Practice for Source Directed Measures Dioxin and Dioxin-like PCB Contamination in Foods

180. The Committee agreed to return the renamed proposed draft Code of Practice for the Prevention and Reduction of Dioxin and Dioxin-like PCB Contamination in Foods and Feed to Step 2 for redrafting by an electronic Working Group, led by Germany[73], for circulation, comments at Step 3 and consideration at its next session. The Committee requested member countries and organizations which have extensive comments to join the electronic Working Group.

3-MCPD IN ACID-HVPS AND ACID HVP-CONTAINING PRODUCTS (Agenda Item 17f)

181. The 36th Session of the CCFAC agreed to commence work on the establishment of a maximum level for 3-MCPD in acid-HVPs and acid-HVP containing products subject to approval as new work by the Codex Alimentarius Commission while requesting comments on proposals for maximum levels for chloropropanols in these commodities. The Committee agreed that a Working Group under the direction of the United Kingdom would prepare an updated Discussion Paper on Chloropropanols with proposals for maximum levels for 3-MCPD in acid-HVPs and foods containing acid-HVP for circulation, comments, and consideration at its next session. [74]

182. The 27th Session of the Codex Alimentarius Commission approved the establishment of a maximum level for 3-MCPD in acid-HVPs and acid-HVP containing products as new work for the Committee (N08-2004).[75]

Discussion Paper on Chloropropanols

183. The Committee endorsed the recommendation of the *ad hoc* Working Group on Contaminants and Toxins to start new work on the elaboration of a Code of Practice. The Committee considered a project document for this new work, as contained in CRD 33, and revised the title to read "Project Document on New Work on a Code of Practice for the Reduction of Chloropropanols during the Production of acid-Hydrolyzed Vegetable Proteins (HVPs) and products that contain acid-HVPs". It agreed that this change would be reflected throughout the document. The Committee agreed to forward the project document to the 28th Session of the Commission for approval as new work (see Appendix XXVII). It was further agreed that, pending the approval of the Commission, an electronic Working Group led by the United Kingdom[76] would prepare a proposed draft Code for distribution, comments at Step 3 and further consideration at its next session.

***Proposals for Maximum Levels*[77]**

184. The Committee noted the conclusions of the 57th JECFA on the evaluation of chloropropanol[78]. Soya sauce and acid-HVP containing products were considered as the main contributors to intake. JECFA concluded, as 3-MCPD is found infrequently in foods, a regulatory limit would be unlikely to have much effect on the overall intake of non-consumers of soya sauce. However, because the distribution of residual 3-MCPD in soya sauce is highly skewed and because it is likely that brand loyalty could result in regular consumption of highly contaminated brands, a regulatory limit on the concentration of 3-MCPD in soya sauce could markedly reduce the intake of this contaminant by consumers of this condiment.

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73 With assistance of Australia, China, Japan, United Kingdom, United States, CEFS

74 ALINORM 04/27/41, paras 193-194.

75 ALINORM 04/27/41, para. 88 and Appendix VI.

76 With the assistance of Australia, Canada, China, European Community, Japan, Republic of Korea, Thailand, United States and HIPC.

77 CX/FAC 05/37/31 (Proposals for Maximum Levels submitted in response to CL 2004/9-FAC by European Community, AIIBP/FAIBP and IHPC); CX/FAC 05/37/31-Add.1 (Proposals submitted by Cuba and CIIA); CRD 18 (Comments by Japan);CRD 21 (Comments by Malaysia); CRD 30 (Comments by IHPC).

78 WHO Technical Report Series, 909, 57th JECFA, 2001

185. JECFA reviewed several intake estimates that were made based on national data, mainly focusing on consumers of soya sauce and savoury foods. Based on United States national intake estimates, the impact on intake of elimination of products with high 3-MCPD levels was estimated. Based on a limited study, the elimination of soya sauce with levels higher than 100 mg/kg, or higher than 50 mg/kg, or higher than 1 mg/kg, resulted in significant decrease of mean 3-MCPD intake.

186. The Committee noted that a wide range of proposals for maximum levels (from 0.02 to 1.0 mg/kg) had been submitted in response to CL 2004/9-FAC by various delegations. In this regard, it was noted that the applicability of different maximum levels varied according to the products covered and the production techniques used for their production. Some products might only contain small amounts of 3-MCPD, while others might contain relatively high levels. Naturally fermented soya sauce usually did not contain detectable levels of 3-MCPD.

187. It was pointed out that levels of 3-MCPD had been reported by various countries in other products, such as cereals and that an exposure assessment considering all products would be required.

188. The Committee considered setting a maximum level for 3-MCPD for consideration at Step 3. After a lengthy discussion of various maximum levels, in the attempt to reach a compromise, the Committee agreed to use as a starting point a maximum level of 0.4 mg/kg for 3-MCPD in liquid condiments containing acid HVP (excluding naturally fermented soya sauce).

189. Due to the need to better define the products for which maximum levels should be set, the Committee agreed that an electronic Working Group led by United Kingdom [79] would prepare a discussion paper that will define the different acid HVP containing products and collect information on other products that contain 3-MCPDs. The Committee also agreed to request JECFA to conduct an exposure assessment for chloropropanols from all sources (see Agenda Item 18).

Status of the proposed draft Maximum Levels for 3-MCPD in acid-HVPs and acid-HVP containing products

190. The Committee agreed to circulate the proposed draft maximum level for 3-MCPD in liquid condiments containing acid-HVP (excluding naturally fermented soya sauce) for comments at Step 3 and further consideration at its next session (see Appendix XXVIII).

DISCUSSION PAPER ON ACRYLAMIDE (Agenda Item 17g)[80]

191. The Committee recalled that at its 36th Session, it was agreed to revise the Discussion Paper on Acrylamide taking into account the comments submitted, for circulation, comments, and further consideration at the present session. [81]

192. The JECFA Secretariat informed the Committee that acrylamide was formed in certain foods during heat processing (generally above 120°C). The 64th JECFA Meeting evaluated acrylamide for neurotoxicity, reproductive and developmental effects, genotoxicity, as well as carcinogenicity, and considered that the pivotal effects of acrylamide for the present risk assessment were its genotoxicity and carcinogenicity. JECFA considered that "Margin of Exposure" (MOE) values of 300 for the general population and 75 for consumers of high amounts of foods containing high acrylamide levels were low and that they may indicate a human health concern. Therefore, appropriate efforts to reduce acrylamide concentrations in foodstuffs should continue.

193. The Committee agreed with the recommendation at the *ad hoc* Working Group on Contaminants and Toxins that the Discussion Paper should be revised taking into account the following:

- the 64th JECFA evaluation of acrylamide;
- national mitigation strategies;

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79 With the assistance of Australia, Canada, China, European Community, Germany, Japan, Philippines, Republic of Korea, Thailand, United States and IHPC.

80 CX/FAC 05/37/33; CX/FAC 05/37/33-Add.1 (Comments by Cuba, European Community and Japan). CRD 8 (Comments by Indonesia); CRD 32 (Comments to CCFAC on specific question regarding Acrylamide - Extract from 64th JECFA draft report); CRD 36 (Comments by Republic of Korea).

81 ALINORM 04/27/12, paras 197-198.

- role of food processors, food catering services, and consumers;

194. The Discussion Paper should also include an outline of a Code of Practice and a project document for starting new work on the elaboration of the Code of Practice for possible future submission to the Commission.

195. The Representative of WHO informed the Committee that relevant data and information on studies, surveys and analytical methods for Acrylamide were available on the FAO/WHO Acrylamide Infonet[82].

196. The Committee agreed to establish a Working Group, led by the United Kingdom and the United States[83], to revise the Discussion Paper, taking into consideration the above discussion, for circulation, comments and consideration at its next session.

DISCUSSION PAPER ON POLYCYCLIC AROMATIC HYDROCARBONS (PAH) CONTAMINATION (Agenda item 17h)[84]

197. The Committee recalled that at its last session it had agreed that a Working Group led by Denmark would prepare a discussion paper to set out the issues concerning Polycyclic Aromatic Hydrocarbons in foods, for circulation, comments, and consideration at this Session. [85]

198. The JECFA Secretariat informed the Committee that the 64th JECFA meeting, based on the derived MOEs of 25,000 and 10,000 for mean and high intakes, respectively, concluded that the estimated intakes of polycyclic aromatic hydrocarbons (PAH) were of low concern for human health. Nevertheless, due to the genotoxicity potential of many PAHs, efforts should be made to reduce contamination of foods with PAHs during drying and smoking processes (measures to reduce intake of PAHs could include avoiding contact of foods with flames, and cooking with the heat source above rather than below the food.).

199. The Committee endorsed the recommendation of the *ad hoc* Working Group on Contaminants and Toxins and recommended that the Discussion Paper be revised with particular attention to the 64th JECFA evaluation. The Discussion Paper should also include an outline of a Code of Practice, mainly focusing on general advice addressing practices that may lead to high levels of PAH in foods and should include a project document for starting new work on the elaboration of the Code of Practice for possible submission to the Commission.

200. The Committee agreed to establish a Working Group led by Denmark[86] to revise the Discussion Paper for circulation, comments and consideration at its next session.

DISCUSSION PAPER ON THE GUIDELINES LEVELS FOR METHYLMERCURY IN FISH (Agenda item 17i)[87]

201. The 36th Session of the CCFAC noted the request of the 53rd Session of the Executive Committee[88] to consider whether the current Guideline Level for Methylmercury in Fish needed to be revised in the light of the recent risk assessment performed by JECFA and/or if any other risk management options, including formulation of specific dietary advice, would be appropriate. The Committee established a Working Group, led by the European Community, to prepare a discussion paper on the possible need to revise the Guideline Level for Methylmercury in Fish, including an examination of other possible management options for circulation, comments, and consideration at its 37th Session. [89]

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82 http://acrylamide-food.org

83 With assistance of Australia, Canada, European Community, Germany, Italy, Japan, Korea, Norway, Sweden, Switzerland, IFT, INC, CIAA, WHO.

84 CX/FAC 05/37/34; CX/FAC 05/37/34-Add.1 (Comments by Cuba, Japan, Spain, United States and Venezuela); CX/FAC 05/37/33-Add.2 (Comments by European Community); CRD 27 (Comments by Indonesia

85 ALINORM 04/27/12, para. 217.

86 With assistance of European Community, Finland, Iceland, India, Japan, Korea, United Kingdom, United States, IADSA

87 CX/FAC 05/37/35; CX/FAC 05/37/35-Add.1 (Comments submitted by Australia, Brazil, Chile, Cuba, European Community, Japan, New Zealand and Consumers International); CRD 18 (Comments by Japan); CRD 20 (Comments by South Africa); CRD 28 (Comments by Indonesia).

89 ALINORM 04/27/12, para. 218.

202. The Committee endorsed the recommendations of the *ad hoc* Working Group on Contaminants and Toxins to reply to the Codex Committee on Fish and Fisheries Products (CCFFP) that the revision of the Guideline Levels requires more comprehensive consideration by CCFAC in order to take into account all factors related to the consumption of fish, in particular, risks and benefits and that, in the meantime, the existing Guideline Levels for Methylmercury in Fish (CAC/GL 7-1991) can be retained with the understanding that enforcement can be performed by determination of total mercury as a screening method (for facilitating control/monitoring). Methylmercury needs only to be determined for verification purposes.

203. The Committee also endorsed the recommendation of the *ad hoc* Working Group to revise the Discussion Paper to consider: method of analysis of methylmercury; elaboration of the Terms of Reference for an Expert Consultation on risks and benefits of fish consumption; and elaboration of a possible request to JECFA. The Committee agreed to establish a Working Group, led by European Community[90], to revise the Discussion Paper for circulation, comments and consideration at its next session.

204. With regard to a possible request to JECFA, the JECFA Secretariat clarified that JECFA usually sets only one health-based guidance value, such as a TDI or PTWI, for the whole population that is protective for the most sensitive part of the population. However, for developmental endpoints in particular, this may be overly conservative for parts of the population, and JECFA may consider in specific cases to set separate values for different parts of the population. The JECFA Secretariat will take up the request for further clarification on the new PTWI for methyl mercury in this context (see Agenda Item 18).

205. The Chairperson of CCFAC agreed to organise a workshop close to the dates of the 38th Session of CCFAC to exchange views on risk communication strategies and agreed that European Community would elaborate a programme for the workshop in collaboration with the United States and with the assistance of FAO and WHO.

DRAFT REVISED GUIDELINE LEVELS FOR RADIONUCLIDES IN FOODS FOR USE IN INTERNATIONAL TRADE (Agenda Item 17j)[91]

206. The Committee noted that the 27th Session of the Codex Alimentarius Commission adopted[92] the proposed draft revised Guideline Levels for Radionuclides for Use in International Trade at Step 5 and advanced them to Step 6 on the basis of a text proposed by the 36th Session of the CCFAC [93].

207. The representatives of the IAEA, speaking also on behalf of FAO and WHO, recalled that the Guidelines were primarily being revised to expand the list of radionuclides in order to provide additional public health protection and to extend the application of the guideline levels to more than one year following a nuclear accident or radiological event. It was noted that the revised guideline levels were based on Generic Action Levels for Foodstuffs that were adopted by the international community in 1996 as part of the International Basic Safety Standards for Protection Against Ionizing Radiation and for the Safety of Radiation Sources. It was emphasized that the Chernobyl accident clearly highlighted the critical importance of maintaining guideline levels and controls in place over an expanded period of time.

208. In response to the written comments submitted, the IAEA representatives noted that controlling bodies should be in a position to monitor the radioactive contamination of foods and to make decisions on their suitability for international trade regardless of the source of contamination. In this regard, it was stated that, in many cases, it was technically impossible and also highly unlikely that monitoring bodies could differentiate between radionuclide contamination resulting from routine nuclear industry operations and that arising from a nuclear emergency. However, the IAEA agreed with the opinion of the European Community that the control of radionuclides in foods should only be applied in the case of nuclear accidents or radiological/malevolent events, i.e., not to routine nuclear facility operations.

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90 With assistance of Australia, Cuba, Canada, Italy, India, Japan, Korea, New Zealand, South Africa, Spain, Sweden, Thailand, United Kingdom, United States, CI and WHO

91 ALINORM 04/27/12, App. XXII; CX/FAC 05/36/36 (Comments at Step 6 submitted in response to CL 2004/27-FAC by the European Community, the IAEA and Venezuela); CRD 27 (comments by India).

92 ALINORM 04/27/41, para. 71 and App. IV.

93 ALINORM 04/27/12, para. 204.

209. In regard to setting different guideline levels for certain radionuclides to foods for general consumption and foods for infants, the Representative of the IAEA agreed with the opinion of the European Community that infants generally needed a higher level of protection than the general public. However, the difficulties of restricting the consumption of foods by a particular population group were highlighted, in that imported foods might subsequently be consumed directly by the general population or processed into other foods for consumption by infants. In any case, it was noted that the Guideline Levels for most of the radionuclides were based on dose assessments for infants.

210. The delegation of the United States noted that the draft guideline levels were compatible with recently published United States policy. The guideline levels were sufficiently protective for adults and children and supported their advancement in the Step procedure.

211. The representative of the European Community noted their comments in document CX/FAC 05/37/36, including their opinion that there was no scientific justification for abandoning the infant food category. It was also reconfirmed that they were of the strong opinion that there was no need for guideline levels for radionuclides on a permanent basis, especially in consideration of the fact that the widespread contamination of foodstuffs would only be in the case of a nuclear accident or malevolent contamination. In this regard, it was noted that in normal situations radioactivity levels in foods are subject to national regulatory control to ensure compliance with dose limits laid down in international safety standards and that the parameters in the proposed Codex levels for the fraction of the overall diet that is contaminated does not apply to normal situations. The European Community was therefore of the opinion that the scope of the guideline levels should clearly exclude normal situations.

212. The delegations of Belgium, France, Germany and the United Kingdom expressed support for the intervention made by the Delegation of the European Community. In particular, the delegation of Germany highlighted the enhanced sensitivity of children to radiation and noted that Chernobyl related statistics in Germany showed up to one-hundred percent contamination of foodstuffs. The delegation of Belgium confirmed that assumptions related to intake were not always conservative. The delegation of France noted that the current draft guideline levels were interpreted by French non-governmental organizations as permission to contaminate foods with radionuclides. The delegation of the United Kingdom noted that the CCFAC was primarily requested to extend the current Codex standard to situations beyond the first year without significant changes to the Scope section.

213. In response to comments made by Venezuela concerning different guideline levels for domestic and imported foods, the representatives of the IAEA noted that the text already allowed for the adoption of different national values for internal use where the assumptions concerning food distribution might not apply, e.g., in the case of wide-spread radioactive contamination. It was also suggested that the concerns of Venezuela regarding the exclusion of naturally occurring radionuclides were already addressed in the Radionuclides section of the document. The representative of the IAEA also clarified that the concerns expressed by the delegations of Singapore and Malaysia at the 27th Session of the Codex Alimentarius Commission were addressed under document 05/37/36.

214. It was understood that the resolution of these issues would allow consideration for advancement of the text to Step 5/8 at the next session.

Status of the Draft Revised Guideline Levels for Radionuclides in Foods for Use in International Trade

215. The Committee returned the draft revised Guideline Levels for Radionuclides in Foods for Use in International Trade to Step 2 for revision by a Working Group led by the European Community and IAEA[94] for circulation, comments at Step 3 and consideration at its next session. It was further agreed that the Working Group would consider the current draft text in its entirety, with a particular emphasis on:

- Revisions to the Scope of the guidelines to clarify that the guideline levels only apply in situations related to nuclear accidents or radiological events and do not apply to routine monitoring purposes;
- The separation of guideline levels specific to general and infant food categories.

[94] With the assistance of Belgium, Egypt, Finland, France, Germany, Switzerland, the United Kingdom and the United States.

PRIORITY LIST OF FOOD ADDITIVES, CONTAMINANTS AND NATURALLY OCCURING TOXICANTS PROPOSED FOR EVALUATION BY JECFA (Agenda Item 18)[95]

216. The 36th Session of the CCFAC agreed to request comments for additions or amendments to its Priority List for consideration at the current session.[96] Mr J. Dornseiffen (the Netherlands) introduced the report of the Working Group on JECFA Priorities. He informed the Committee about the changes to the agenda of the forthcoming 65th JECFA meeting in which most of the food additives were from the priority list prepared by the 36th Session of CCFAC.

REPORT OF THE WORKING GROUP ON THE JECFA PRIORITY LIST

217. The Working Group proposed that the following compounds, that were nominated previously, would remain in the priority list: aluminium from all sources and annatto extracts. The Working Group recommended:

- to withdraw stearyl tartrate from the priority list due to lack of information on the actual request and on data availability;
- to add to the priority list: approximately 285 flavouring agents, acidified sodium chlorite solutions, carrageenan, cyclotetraose, isoamylase from *Pseudomonas amyloderamosa,* lycopene from *Blakeslea trispora,* lycopene (synthetic), pimaricin, processed Euchema seaweed (PES), propyl paraben, sodium Iron (III) EDTA trihydrate and, for revision of specifications, titanium dioxide and zeaxanthin (synthetic). The Committee noted the need to clarification on whether cyclotetraose be a sugar and thereof be removed from the priority list;
- to maintain in the priority list the following compounds, previously nominated: chloropropanols (formation and co-occurrence of 3-MCPD and 1,3-DCP), ergot alkaloids, ochratoxin A, patulin, phenyl hydrazines, and proposed the addition of methyl mercury. The Working Group noted that the consideration of a request for aflatoxin intake assessment would depend on the outcome of the discussion under Agenda Item 16 b.

218. The Chairman of the Working Group informed the Committee that arsenic, which was tentatively scheduled for the 64th JECFA, had been taken out of the agenda due to the already complex agenda and in light of limited resources. There were currently no plans to re-schedule arsenic and it had not been requested by the Committee.

219. The Committee noted that the Working Group had prioritized the list according to the following prioritization criteria: “first priority” to request coming from Codex Committees and from JECFA; “second priority” to requests supported by several countries; and, “third priority” to compounds requested by individual countries.

220. The Committee noted the following requests for prioritization:

- flavours and acidified sodium chlorite (delegation of United States). The acidified sodium chlorite was also supported by the delegation of Australia;
- lycopene (delegations of Switzerland and Spain);

221. The Committee noted that the delegation of the European Community were not in favour of new uses of pimaricin, but did not oppose to the exposure assessment by JECFA.

222. The Committee in view of the extensive priority list agreed to add to the first priority only pimaricin, since it was a request from another Codex Committee (CCMMP) and flavouring agents, due to their ongoing evaluations by JECFA. It was understood that consideration might be given to other substances when the agenda of the 2006 meeting of JECFA would be finalised.

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95 CX/FAC 05/37/37 (Comments submitted in response to CL 2004/9-FAC by Japan and ISA); CX/FAC 05/37/37-Add. 1 (Comments by Japan); CX/FAC 05/37/37-Add. 2 (Comments by Cuba, European Community and Spain); CRD 7 (Report of the Working Group on the priority List); CRD 21 (Comments by Malaysia); CRD 26 (Comments by Switzerland).

96 ALINORM 04/27/41, para. 211.

223. The Committee agreed to the recommended additions and amendments to CCFAC's Priority List of Food Additives, Contaminants and Naturally Occurring Toxicants Proposed for the Evaluation by JECFA as presented in Appendix XXIX. The substances of highest priority were indicated with a footnote. It was noted that the request for re-evaluation of aflatoxin intake was not put forward by the Committee (see Agenda Item 16b). The Committee agreed that in the future the priority list should be ranked by priority.

224. The Committee endorsed the recommendation of the Working Group to forward the following statement to the 28th Session of the Commission with regard to the serious situation of the WHO contribution for JECFA activities: "The CCFAC expresses its concern about the financial situation regarding the work of JECFA. CCFAC would like to request the Commission to bring this concern to the attention of the Director General of WHO and to ask for long-term sustainable funding of the activities necessary to support the work of Commission, in particular JECFA and related activities". The Committee further decided to encourage Member Countries to bring this concern to the attention of their government.

225. The Committee agreed to ask the Codex Secretariat, in coordination with the Joint Secretariat to JECFA, to request new proposals for additions or amendments to the Priority List for consideration at its next session in a separate Circular Letter, which would also include the questionnaire for submission. The Committee noted that the meeting of the Working Group would benefit if more time could be allocated.

226. The Committee was informed that this was last Working Group meeting chaired by Dr Dornseiffen and the delegates recognized his work and important support to the Working Group during the last 8 years.

OTHER BUSINESS AND FUTURE WORK (Agenda Item 19)

FUTURE WORK

Reduction of Ochratoxin in Wine[97]

227. The Observer of the Office international de la vigne et du vin (OIV) informed the Committee of the OIV decision on the maximum level of ochratoxin A(OTA) in wine. The Committee was also informed that the OIV was currently working on the elaboration of a Code on good vitivinicultural practice in order to limit the presence of ochratoxin A in grape-derived products. The OIV Observer suggested the Committee to consider starting new work on this matter.

228. The Committee agreed to establish an electronic Working Group led by the European Community[98] to prepare a Discussion Paper on Maximum Level for Ochratoxin (OTA) in Wine for consideration at its next session.

Proposal for New Work on a draft "Code of Practice for the Prevention and Reduction of Ochratoxin A (OTA) Contamination in Coffee and Cocoa"[99]

229. The Delegation of the European Community proposed to start new work on a Code of Practice for the Prevention and Reduction of Ochratoxin A (OTA) Contamination in Coffee and Cocoa. However, several delegations pointed out that it was necessary to have a discussion paper first.

230. The Committee agreed to establish an electronic Working Group led by Ghana[100] to prepare a Discussion Paper on Ochratoxin A contamination in coffee and cocoa, which takes into account the JECFA evaluation, the outputs of the FAO Coordinated Project "Enhancement of Coffee Quality through the Prevention of Mould Formation" and other relevant information for consideration at its next session.

Food Category of the Codex General Standard for Food Additives [101]

231. The Committee noted the request of the Observer of the International Alliance of Dietary/Food Supplement Associations (IADSA) to revise the descriptor of Food Category 13.6 "Food supplements" in the Food Category System (FCS) of the Codex General Standard for Food Additives" to also include other forms than "table or liquid form". The Committee noted the procedure, agreed to at its 36th Session, to introduce changes to the FCS. No delegation offered to prepare this work.

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97 CRD 9 (prepared by OIV).
98 With assistance of Chile, France, Italy, Morocco, United Kingdom, FIVS and OIV.
99 CRD35 (prepared by European Community).
100 With assistance of Brazil, European Community, Nigeria and United States
101 CRD10 (prepared by ISDSA).

OTHER BUSINESS

232. The delegation of Morocco proposed the use of audio-visual equipment to display working documents throughout the session in order to facilitate the discussion and understanding. The delegation of Spain asked to provide for Spanish interpretation during Working Group meetings. The Chairperson of the CCFAC indicated that careful consideration would be given to these suggestions.

DATE AND PLACE OF THE NEXT SESSION (Agenda Item 20)

233. The Committee was informed that the 38th Session of the Codex Committee on Food Additives and Contaminants was tentatively scheduled to be held in The Hague (the Netherlands) from 24-28 April 2006, subject to discussion between the Dutch and Codex Secretariats.

SUMMARY STATUS OF WORK

SUBJECT	STEP	FOR ACTION BY:	DOCUMENT REFERENCE (ALINORM 05/28/12)
Draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts	8	28th CAC	para. 132 and Appendix XXI
Draft Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods	8	28th CAC	para. 166 and Appendix XXV
Draft Maximum Levels for Cadmium in wheat grain; potato; stem and root vegetables; leafy vegetables; and, other vegetables	8	28th CAC	para. 175 and Appendix XXVI
Draft and proposed draft Food Additive Provisions of the General Standard for Food Additives (GSFA)	8 and 5/8	28th CAC	para. 83 and Appendix X
Proposed draft amendments to the International Numbering System for Food Additives	5/8	28th CAC	para. 88 and Appendix XIII;
Specifications for the Identity and Purity of Food Additives arising from the 63rd JECFA meeting	5/8	28th CAC	para. 114 and Appendix XV
Proposed draft revision of the Preamble of the General Standard for Contaminants and Toxins in Foods (GSCTF) (N09-2004)	5/8	28th CAC	para. 128 and Appendix XIX
Draft Maximum Level for Ochratoxin A in raw wheat, barley, and rye	7	39th CCFAC	ALINORM 04/27/12, para. 136 and Appendix XVII
Draft Maximum Level for Lead in fish	7	38th CCFAC	para. 157 and Appendix XXIII
Draft and proposed draft Food Additive Provisions of the GSFA	6 and 3	Codex Secretariat Comments 38th CCFAC	para. 82 and Appendix IX
Proposed draft revised Preamble of the GSFA, including the diagram	5	28th CAC Comments 38th CCFAC	para. 64 and Appendix VII
Proposed draft Maximum Level for Total Aflatoxins in unprocessed almonds, hazelnuts and pistachios	5	28th CAC Comments 38th CCFAC	para. 141 and Appendix XXII
Proposed draft Maximum Levels for Cadmium in polished rice and in marine bivalve molluscs (excluding oysters and scallops) and in cephalopods (without viscera)	5	28th CAC Comments 38th CCFAC	para. 175 and Appendix XXVI
Proposed draft Maximum Level for Total Aflatoxin in processed almonds, hazelnuts and pistachios	3	Comments 38th CCFAC	para. 141 and Appendix XXII
Proposed draft Maximum Levels for Tin in canned food (other than beverages) and in canned beverages	3	Comments 38th CCFAC	para. 163 and Appendix XXIV
Proposed draft Maximum Level for 3-MCPD in liquid condiments containing acid-HVP (excluding naturally fermented soya sauce)	3	Comments 38th CCFAC	para. 190 and Appendix XXVIII
Proposed draft Sampling Plan for Aflatoxin Contamination in almonds, Brazil nuts, hazelnuts and Pistachios (N07-2004)	2/3	Working Group Comments 38th CCFAC	para. 144
Proposed draft revised Guideline Levels for Radionuclides in Foods for Use in International Trade	2/3	Working Group Comments 38th CCFAC	para. 215

SUBJECT	STEP	FOR ACTION BY:	DOCUMENT REFERENCE (ALINORM 05/28/12)
Proposed draft Code of Practice for the Prevention and Reduction of Dioxin and Dioxin-like PCB Contamination in foods and feed	2/3	Working Group Comments 38th CCFAC	para. 180
Revision of the "Class Names and International Numbering System for Food Additives - CAC/GL 36-2003"	1/2/3	28th CAC Comments 38th CCFAC	para. 94 and Appendix XIV
Appendix to the Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts to address additional measures for the prevention and reduction of Aflatoxins in Brazil Nuts	1/2/3	28th CAC Working Group Comments 38th CCFAC	para. 131 and Appendix XX
Code of Practice for the Reduction of Chloropropanols during the Production of acid-Hydrolyzed Vegetable Proteins (HVPs) and Products that Contain acid-HVPs	1/2/3	28th CAC Working Group Comments 38th CCFAC	para. 183 and Appendix XXVII
Revised Terms of Reference of CCFAC	---	28th CAC	para. 9 and Appendix II
Amendment to Annex B (Food Category System) of the GSFA	---	28th CAC	para. 11 and Appendix III
Amendments to Section "Relations between Commodity Committees and General Committees – Food Additives and Contaminants "of the Codex Procedural Manual	---	28th CAC	para. 55 and Appendix VI
Report on the electronic Working Group on Working Principles of the GSFA (management of the GSFA, relationship between CCFAC/GSFA and Commodity Committees/Codex commodity standards in relation to Food Additives)	---	Working Group Comments Physical Working Group 38th CCFAC	para. 62
Revocation of Food Additives Provisions of the GSFA	---	28th CAC	paras 49 and 83and Appendix XII
Discontinuation of draft and proposed draft Food Additive Provisions of the GSFA	---	Codex Secretariat 28th CAC	para. 78
Discontinuation of draft and proposed draft Food Additive Provisions of the GSFA	---	28th CAC	para. 84 and Appendix VIII
Terms of Reference for a FAO/WHO Expert Consultation to Conducts a Comprehensive Assessment of Use of Active Chlorine	---	28th CAC	para. 108 and Appendix XV
List of Maximum Levels for Lead in Commodity Standards for deletion	---	28th CAC	para. 119 and Appendix XVII
List of individual Codex standards for Contaminants and Toxins to be revoked	---	28th CAC	para. 124 and Appendix XVIII
Working document for information and use in discussion on GSFA	-	Codex Secretariat 38th CCFAC	para. 67
Discussion Paper on Options for Addressing Food Additive Provisions in Glazes	---	Canada 38th CCFAC	para. 67
Report of the Electronic Working Group on the GSFA	---	Working Group 38th CCFAC	para. 70
Inventory of Processing Aids, updated	---	New Zealand 38th CCFAC	para. 99
Discussion Paper on the Development of Guidelines for Flavouring Agents	---	Working Group Comments 38th CCFAC	para. 102

SUBJECT	STEP	FOR ACTION BY:	DOCUMENT REFERENCE (ALINORM 05/28/12)
Working Document for Information and Use in Discussion on GSCTF	---	Netherlands and Japan 38th CCFAC	paras 124-125
Discussion Paper on Aflatoxin Contamination in Brazil nuts	---	Working Group Comments 38th CCFAC	para. 147
Discussion Paper on Deoxinivalenol (DON)	---	Working Group Comments 38th CCFAC	para. 150
Discussion Paper on Maximum Level for Lead in fish	---	Working Group Comments 38th CCFAC	para. 156
Discussion Paper on Acid-HVPs Containing Products	---	Working Group Comments 38th CCFAC	para. 189
Discussion Paper on Acrylamide	---	Working Group Comments 38th CCFAC	paras 193, 194 and 196
Discussion Paper on Polycyclic Aromatic Hydrocarbons (PAH)	---	Working Group Comments 38th CCFAC	paras 199-200
Discussion Paper on Methylmercury in Fish	---	Working Group Comments 38th CCFAC	para. 203
Discussion Paper on Maximum Level for Ochratoxin A (OTA) in wine	---	Working Group Comments 38th CCFAC	para. 228
Discussion Paper on Ochratoxin A (OTA) Contamination in Coffee and Cocoa	---	Working Group Comments 38th CCFAC	para. 230
Priority List of Food Additives, Contaminants and Naturally Occurring Toxicants Proposed for Evaluation by JECFA	---	Codex Secretariat Comments 38th CCFAC	para. 225 and Appendix XXIX
Mycotoxin Contamination in Sorghum	Discontinued		para. 153
Provisional List of Main Internationally Traded Fish Species	Discontinued		para. 156

Appendix I

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LISTE DES PARTICIPANTS
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Appendix II

REVISED TERMS OF REFERENCE OF THE CODEX COMMITTEE ON FOOD ADDITIVES AND CONTAMINANTS

(a) to establish or endorse permitted maximum or guideline levels for individual food additives, for contaminants (including environmental contaminants) and for naturally occurring toxicants in foodstuffs and animal feeds;

(b) to prepare priority lists of food additives and contaminants for toxicological evaluation by the Joint FAO/WHO Expert Committee on Food Additives;

(c) to consider methods of sampling and analysis for their determination in food and feed;

(d) to recommend specifications of identity and purity for food additives for adoption by the Commission; and

(e) to consider and elaborate standards or codes for related subjects such as the labeling of food additives when sold as such, and food irradiation.

Appendix III

AMENDMENT TO THE DESCRIPTOR OF FOOD CATEGORY 14.1.2.1 OF ANNEX B (FOOD CATEGORY SYSTEM) OF THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES

14.1.2.1 Fruit juice:

Fruit juice is the unfermented but fermentable liquid obtained from the edible part of sound, appropriately mature and fresh fruit or of fruit maintained in sound condition by suitable means. The juice is prepared by suitable processes, which maintain the essential physical, chemical, organoleptical and nutritional characteristics of the juices of the fruit from which it comes. The juice may be cloudy or clear, and may have restored (to the normal level attained in the same kind of fruit) aromatic substances and volatile flavour components, all of which must be obtained by suitable physical means, and all of which must have been recovered from the same kind of fruit. Pulp and cells obtained by suitable physical means from the same kind of fruit may be added. A single juice is obtained from one kind of fruit. A mixed juice is obtained by blending two or more juices or juices and purees, from different kinds of fruit. Fruit juice may be obtained, e.g., by directly expressing the juice by mechanical extraction processes, by reconstituting concentrated fruit juice (food category 14.1.2.3) with water, or in limited situations by water extraction of the whole fruit (e.g., prune juice from dried prunes).[1] Examples include: orange juice, apple juice, black currant juice, lemon juice, orange-mango juice and **coconut water**.

[11] Proposed Draft General Standard for Fruit Juices and Nectars (ALINORM 03/39A, Appendix II; at Step 5 of the Codex procedure).

Appendix IV

ACTION REQUIRED AS THE RESULT OF CHANGES IN THE ACCEPTABLE DAILY INTAKE (ADI) STATUS AND OTHER TOXICOLOGICAL RECOMMENDATIONS ARISING FROM THE 63rd AND 64th JECFA MEETINGS

Table 1. Food additives evaluated toxicologically at the 63rd JECFA meeting

INS No.	Food Additive	37th CCFAC Recommendation
928	Benzoyl peroxide	**Forward to the 28th CAC for adoption at Step 8** the provision for the use of benzoyl peroxide in category 01.8.2 (Dried Whey and whey products excluding whey cheeses) at 100 mg/kg.
457	α-Cyclodextrin	**Forward to the 28th CAC for adoption to Step 5/8** the provision for α-cyclodextrin in Table 3 of the GSFA
	Hexose oxidase from C*hondrus crispus* expressed in *Hansenula polymorpha*	Include in the Codex Inventory of Processing Aids (CAC/MISC 3).
	Xylanase from *Bacillus subtilis* expressed in *Bacillus subtilis*	Include in the Codex Inventory of Processing Aids (CAC/MISC 3)
	Xylanase (resistant to xylanase inhibitor) from *Bacillus subtilis* containing a modified xylanase gene from *Bacillus subtilis*	Include in the Codex Inventory of Processing Aids (CAC/MISC 3)
161b	Lutein from *Tagetes erecta* L.	• **Request information** on use as a color for inclusion in the GSFA
161h	Zeaxanthin	• INS 161h assigned at present session. • **Request information** on use as a color for inclusion in the GSFA
	Peroxyacid antimicrobial solutions containing 1-hydroxyethylidene-1,1-diphosphonic acid (HEDP) *Containing HEDP and three or more of the following components: peroxacetic acid, acetic acid, hydrogen peroxide, octanoic acid and peroxyoctanoic acid.*	• **Request information** on how these antimicrobial solutions are used in order to decide whether they are processing aids or food additives. In particular, address the foods on which the solutions are used and whether the uses are followed by a potable water rinse. • Include in the Codex Inventory of Processing Aids (CAC/MISC 3), for the uses considered by JECFA
960	Steviol glycosides	• Name assigned to INS 960 (stevioside) changed to 'steviol glycosides'.
963	D-Tagatose	• Considered to be a sugar (ingredient). No need to consider food additive uses.

Table 2. Natural constituent evaluated toxicologically at the 63rd JECFA meeting

Substance	Recommended action by CCFAC
Glycyrrhizinic acid	No action

Table 3. Contaminants evaluated toxicologically at the 63rd JECFA meeting

Contaminant	Recommended action by CCFAC
Ethyl carbamate	Discussion paper to be elaborated at a future stage.
Polybrominated diphenyl ethers	No action

Appendix V

STATUS OF ENDORSEMENT AND/OR REVISION OF MAXIMUM LEVELS FOR FOOD ADDITIVES AND PROCESSING AIDS IN CODEX STANDARDS

PART 1 – CODEX COMMITTEE ON MILK AND MILK PRODUCTS

PROPOSED DRAFT STANDARD FOR A BLEND OF EVAPORATED SKIMMED MILK AND VEGETABLE FAT			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Firming Agents			
508	Potassium Chloride	GMP	**Not Endorsed** - List with appropriate INS functional effect
509	Calcium Chloride	GMP	**Endorsed**
Stabilizers			
331i	Sodium Dihydrogen Citrate	GMP	**Endorsed**
331iii	Trisodium Citrate	GMP	**Endorsed**
332	Potassium Citrates	GMP	**Not Endorsed** - List as individual additives 332i, ii as appropriate
333	Calcium Citrates	GMP	**Not Endorsed** - List with appropriate INS functional effect
Acidity Regulators			
170	Calcium Carbonates	GMP	**Not Endorsed** - List individual additives 170i, ii as appropriate, with functional effects in INS
339	Sodium Phosphates	10 g/kg Combined Total	**Not Endorsed** - List individual additives 339i-iii as appropriate
340	Potassium Phosphates		**Not Endorsed** - List individual additives 340i-iii as appropriate
341	Calcium Phosphates		**Not Endorsed** - List individual additives 341i-iii as appropriate
450	Diphosphates		**Not Endorsed** - List individual additives 450i-iii as appropriate
451	Triphosphates		**Not Endorsed** - List individual additives 451i-ii as appropriate
452	Polyphosphates		**Not Endorsed** - List individual additives 452i-v as appropriate
500	Sodium Carbonates	GMP	**Not Endorsed** - List individual additives 500i-ii as appropriate
501	Potassium Carbonate	GMP	**Not Endorsed** - List individual additives 501i-ii as appropriate
Thickeners			
407	Carrageenan	GMP	**Endorsed**
Emulsifier			
322	Lecithins	GMP	**Not Endorsed** - Clarify whether is intended to include lecithin or hydrolyzed lecithin, or both

PROPOSED DRAFT STANDARD FOR SKIMMED MILK POWDER MILK AND VEGETABLE FAT IN POWDERED FORM			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Stabilizers			
331(i)	Sodium Dihydrogen Citrate	GMP	**Not Endorsed** - Clarify ML for 331iii
331iii	Trisodium Citrate		
332i	Potassium Dihydrogen Citrate		**Not Endorsed** - Clarify ML for 332i
332 ii	Tripotassium Citrate	GMP	
Firming Agents			
508	Potassium Chloride	GMP	**Not Endorsed** - List with appropriate INS functional effect
509	Calcium Chloride	GMP	**Endorsed**
Acidity Regulators			
339	Sodium Phosphates	10 g/kg total	**Not Endorsed** - List individual additives 339i-iii as appropriate
340	Potassium Phosphates		**Not Endorsed** - List individual additives 340i-iii as appropriate
450	Diphosphates		**Not Endorsed** - List individual additives 450i-iii as appropriate
451	Triphosphates		**Not Endorsed** - List individual additives 451i-ii as appropriate
452	Polyphosphates		**Not Endorsed** - List individual additives 452i-v as appropriate
341iii	Tricalcium Orthophosphates		**Not Endorsed** - Should be Tricalcium Orthophosphate
500	Sodium Carbonates	GMP	**Not Endorsed** - List individual additives 500i-ii as appropriate
501	Potassium Carbonates	GMP	**Not Endorsed** - List individual additives 501i-ii as appropriate
Emulsifier			
322	Lecithins (or phospholipids from natural sources)	GMP	**Not Endorsed** - Clarify whether is intended to include lecithin or hydrolyzed lecithin, or both
471	Mono- and diglycerides of fatty acids	GMP	**Endorsed**
Anticaking Agents			
170i	Calcium carbonate	GMP	**Endorsed**
504i	Magnesium carbonate	GMP	**Endorsed**
530	Magnesium Oxide	GMP	**Endorsed**
551	Silicon Dioxide	GMP	**Endorsed**
552	Calcium Silicates	GMP	**Not Endorsed** - Should be Calcium Silicate
553i	Magnesium Silicate	GMP	**Endorsed**
553iii	Talc	GMP	**Endorsed**
554	Sodium Aluminosilicate	GMP	**Endorsed**
556	Calcium Aluminum Silicate	GMP	**Endorsed**
559	Aluminum Silicate	GMP	**Endorsed**
341iii	Tricalcium orthophosphate	10 g/kg combined	**Not Endorsed** - ML should apply to both 341iii and 343iii
343iii	Trimagnesium orthophosphate		

PROPOSED DRAFT STANDARD FOR SKIMMED MILK POWDER MILK AND VEGETABLE FAT IN POWDERED FORM			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Antioxidants			
300	Ascorbic Acid	0.5 g/kg as ascorbic acid	**Endorsed**
301	Sodium Ascorbate		
304	Ascorbyl Palmitate	0.01 % m/m	**Not Endorsed** - Express ML on mg/kg basis Express use of BHA, BHT and TBHQ as "singly or in combination"
320	BHA	0.01 % on fat or oil basis	
321	BHT	0.01 % on fat or oil basis	
319	TBHQ	0.01 % on fat or oil basis	

PROPOSED DRAFT STANDARD FOR A BLEND OF SWEETENED CONDENSED SKIMMED MILK AND VEGETABLE FAT			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Firming Agents			
508	Potassium Chloride	GMP	**Not Endorsed** - List with appropriate INS functional effect
509	Calcium Chloride	GMP	**Endorsed**
Stabilizers			
331i	Sodium dihydrogen Citrate	GMP	**Endorsed**
331iii	Trisodium Citrate		**Not Endorsed** - Specify ML
332	Potassium Citrates	GMP	**Not Endorsed** - List individual additives 332i, ii as appropriate
333	Calcium Citrate	GMP	**Not Endorsed** - Should be Calcium Citrates; List with appropriate INS functional effect
Acidity Regulators			
170i	Calcium Carbonate	GMP	**Not Endorsed** - List with appropriate INS functional effect
339	Sodium Phosphates	10 g/kg Combined Total	**Not Endorsed** - List individual additives 339i-iii as appropriate
340	Potassium Phosphates		**Not Endorsed** - List individual additives 340i-iii as appropriate
341	Calcium Phosphates		**Not Endorsed** - List individual additives 341i-iii as appropriate
450	Diphosphates		**Not Endorsed** - List individual additives 450i-iii as appropriate
451	Triphosphates		**Not Endorsed** - List individual additives 451i-ii as appropriate
452	Polyphosphates		**Not Endorsed** - List individual additives 452i-v as appropriate
500	Sodium Carbonates	GMP	**Not Endorsed** - List individual additives 500i-ii as appropriate
501	Potassium Carbonates	GMP	**Not Endorsed** - List individual additives 501i-ii as appropriate
Thickeners			
407	Carrageenan	GMP	**Endorsed**
Emulsifier			
322	Lecithins	GMP	**Not Endorsed** - Clarify whether is intended to include lecithin or hydrolyzed lecithin, or both

PROPOSED DRAFT REVISED STANDARD FOR CHEDDAR (C-1)			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Colours			
160a(i)	Beta-Carotene (synthetic)	25 mg/kg	**Endorsed**
160a(ii)	Carotenes (vegetable)	600 mg/kg	**Not Endorsed** - Use INS nomenclature for additive
160b	Annatto extracts	25 mg/kg of cheese on bixin/norbixin basis	**Endorsed**
160c	Paprika oleoresins	GMP	**Not Endorsed** - Delete
160e	β-apo-8`-carotenal	35 mg/kg	**Endorsed**
160f	β-apo-8`-carotenic acid, methyl and ethyl ester	35 mg/kg	**Endorsed**
Acidity regulators			
170**i**	Calcium carbonate	GMP	**Not Endorsed** - List with appropriate INS functional effect
504	Magnesium carbonates		**Not Endorsed** - INS should be 504i for Magnesium Carbonate List ML
575	Glucono-delta-lactone		**Not Endorsed** - List ML
Preservatives			
234	Nisin	12.5 mg/kg	**Endorsed**
251	Sodium nitrate	50 mg/kg of cheese, expressed as Na NO_3	**Endorsed**
252	Potassium nitrate		**Endorsed**
1105	Lysozyme	GMP	**Endorsed**
Salt substitutes			
508	Potassium chloride	GMP	**Not Endorsed** - Salt Substitute is not an INS functional effect; list with appropriate INS functional effect
For surface/rind treatment only			
200	Sorbic acid	1000 mg/kg of cheese, singly or in combination, calculated as sorbic acid	**Not Endorsed** - List under appropriate functional effect with notation that is for surface/rind treatment only
201	Sodium Sorbate		
202	Potassium sorbate		
203	Calcium sorbate		
235	Pimaricin (natamycin)	2 mg/dm^2 surface of whole cheese. Not present at a depth of 5 mm. For rind treatment or added to coatings only	
280	Propionic acid	3000 mg/kg, calculated as propionic acid	
281	Sodium propionate		
282	Calcium propionate		
Anti-caking agents			
460	Cellulose	GMP	**Not Endorsed** - List individual additives 460i, ii as appropriate
551	Silicon dioxide, amorphous	10 g/kg singly or in combination Silicates calculated as silicon dioxide	**Endorsed**
552	Calcium silicate		**Endorsed**
553i	Magnesium silicate		**Endorsed**
553iii	Talc		**Endorsed**

PROPOSED DRAFT REVISED STANDARD FOR CHEDDAR (C-1)			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
554	Sodium aluminosilicate		**Endorsed**
556	Calcium aluminum silicate		**Endorsed**
559	Aluminum silicate		**Endorsed**

Request CCMMP to clarify use of numerical ML as quality factor for additives with non-numerical ADIs assigned by JECFA, rather than GMP.

PROPOSED DRAFT REVISED STANDARD FOR DANBO (C-3)			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Colours			
160a(i)	Carotenes (synthetic)	25 mg/kg	**Endorsed**
160a(ii)	Carotenes (vegetable)	600 mg/kg	**Not Endorsed** - Use INS nomenclature for additive
160b	Annatto extracts	10 mg/kg of cheese on bixin/norbixin basis	**Endorsed**
160c	Paprika oleoresins	GMP	**Not Endorsed** - Delete
160e	β-apo-8`-carotenal	35 mg/kg	**Endorsed**
160f	β-apo-8`-carotenic acid, methyl and ethyl ester	35 mg/kg	**Endorsed**
Acidity regulators			
170(i)	Calcium carbonates	GMP	**Not Endorsed** - List with appropriate INS functional effect
504	Magnesium carbonates		**Not Endorsed** - INS should be 504i for Magnesium Carbonate List ML
575	Glucono-delta-lactone		**Not Endorsed** - List ML
Preservatives			
234	Nisin	12.5 mg/kg	**Endorsed**
251	Sodium nitrate	50 mg/kg of cheese, expressed as Na NO_3	**Endorsed**
252	Potassium nitrate		**Endorsed**
1105	Lysozyme	GMP	**Endorsed**
Salt substitutes			
508	Potassium chloride	GMP	**Not Endorsed** - Salt Substitute is not an INS functional effect; list with appropriate INS functional effect
For surface/rind treatment only			
200	Sorbic acid	1000 mg/kg of cheese, singly or in combination, calculated as sorbic acid	**Not Endorsed** - List under appropriate functional effect with notation that is for surface/rind treatment only
201	Sodium Sorbate		
202	Potassium sorbate		
203	Calcium sorbate		
235	Pimaricin (natamycin)	2 mg/dm^2 surface of whole cheese. Not present at a depth of 5 mm. For rind treatment or added to coatings only	
280	Propionic acid	3000 mg/kg, calculated as propionic acid	
281	Sodium propionate		
282	Calcium propionate		

PROPOSED DRAFT REVISED STANDARD FOR DANBO (C-3)			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Anti-caking agents			
460	Cellulose	GMP	**Not Endorsed** - List individual additives 460i, ii as appropriate
551	Silicon dioxide, amorphous)	10 g/kg singly or in combination Silicates calculated as silicon dioxide	**Endorsed**
552	Calcium silicate		**Endorsed**
553i	Magnesium silicate		**Endorsed**
553iii	Talc		**Endorsed**
554	Sodium aluminosilicate		**Endorsed**
556	Calcium aluminum silicate		**Endorsed**
559	Aluminum silicate		**Endorsed**

Request CCMMP to clarify use of numerical ML as quality factor for additives with non-numerical ADIs assigned by JECFA, rather than GMP

Proposed Draft Revised Standard for Whey Cheeses			
INS	**Substance**	**Maximum Level**	**Endorsement Status**
Only those food additives listed below may be used for products obtained through the concentration of whey and only within the limits specified			
Preservatives			
200	Sorbic Acid	1 g/kg as sorbic acid	**Endorsed**
201	Sodium Sorbate		**Endorsed**
202	Potassium Sorbate		**Endorsed**
203	Calcium Sorbate		**Endorsed**
Only those food additives listed below may be used for products obtained through the coagulation of whey and only within the limits specified			
Acidity Regulators			
260	Acetic Acid Glacial	GMP	**Endorsed**
270	Lactic Acid		**Endorsed**
296	Malic Acid		**Endorsed**
330	Citric Acid		**Endorsed**
575	Glucono delta-lactone		**Endorsed**
Preservatives			
200	Sorbic Acid	1 g/kg as sorbic acid	**Endorsed**
201	Sodium Sorbate		**Endorsed**
202	Potassium Sorbate		**Endorsed**
203	Calcium Sorbate		**Endorsed**
234	Nisin	12.5 mg/kg	**Endorsed**
235	Pimaricin	2 mg/dm^2 surface of whole cheese. Not present at a depth of 5 mm.	**Endorsed**
280	Propionic Acid	3 g/kg calculated as propionic acid	**Endorsed**
281	Sodium Propionate		**Endorsed**
282	Calcium Propionate		**Endorsed**

PART 2 - CODEX COMMITTEE ON NUTRITION AND FOOD FOR SPECIAL DIETARY USES

PROPOSED DRAFT REVISED STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN			
INS	**Substance**	**Maximum Level[1] (per 100 g of the product)**	**Endorsement Status**
Emulsifiers			
322	Lecithin	1.5 g	**Not Endorsed** - Change name to Lecithins
471	Mono- and diglycerides	1.5 g	**Endorsed**
472a	Acetic and fatty acid esters of glycerol	0.5 g singly or in combination	**Endorsed**
472b	Lactic and fatty acid esters of glycerol		**Endorsed**
472c	Citric and fatty acid esters of glycerol		**Endorsed**
pH-Adjusting Agents			
500ii	Sodium hydrogen carbonate	GMP, within the limits for sodium	**Not Endorsed** - Clarify if processing aid or food additive
501ii	Potassium hydrogen carbonate		**Not Endorsed** - Clarify if processing aid or food additive
170i	Calcium carbonate	GMP	Endorse
270	L(+) Lactic acid	GMP Request for L(+)-lactic acid producing cultures at GMP	**Not Endorsed** - Remove refererence to cultures. JECFA clarify use (ADI is not limited - no safety concern at current levels of intake when used as a flavouring substance; JECFA associates functions of acid, acidifier and flavouring agent)
330	Citric acid	GMP	**Not Endorsed** - Clarify if processing aid or food additive
260	Acetic acid	Only for pH adjustment GMP	**Not Endorsed** - Clarify if processing aid or food additive
261i, ii	Potassium acetates		**Not Endorsed** - Clarify if processing aid or food additive. If additive, list 261i, ii separately.
262i, ii	Sodium acetates		**Not Endorsed** - Clarify if processing aid or food additive. If additive: (i) list 262i, ii separately; and (ii) provide numerical use level for 262ii (additive has numerical ADI)
263	Calcium acetate		**Not Endorsed** - Clarify if processing aid or food additive
296	Malic acid (DL) – L(+)-form only		**Endorsed**
325	Sodium lactate (solution) – L(+)-form only		**Not Endorsed** - Clarify if processing aid or food additive
326	Potassium lactate (solution)		**Not Endorsed** - Clarify if processing aid or food additive
327	Calcium lactate – L(+)-form only		**Not Endorsed** - Clarify if processing aid or food additive
331i	Sodium citrate		**Not Endorsed** - Clarify if processing aid or food

[1] Calculated as served to the consumer.

PROPOSED DRAFT REVISED STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN			
INS	**Substance**	**Maximum Level[1] (per 100 g of the product)**	**Endorsement Status**
			additive
331iii	Trisodium Citrate		**Not Endorsed** - Clarify if processing aid or food additive
332i	Potassium citrate		**Not Endorsed** - Clarify if processing aid or food additive
332ii	Tripotassium Citrate		**Not Endorsed** - Clarify if processing aid or food additive
333	Calcium citrate		Endorse
507	Hydrochloric acid		Endorse
524	Sodium hydroxide		**Not Endorsed** - Clarify if processing aid or food additive
525	Potassium hydroxide		**Not Endorsed** - Clarify if processing aid or food additive
526	Calcium hydroxide		**Not Endorsed** - Clarify if processing aid or food additive
575	Glucono delta-lactone	0.5 g singly or in combination	**Endorsed**
334	L(+)-Tartaric acid - L(+)form only	Tartrates as residue in biscuits and rusks	**Endorsed**
335i, ii	Sodium L(+)-Tartrates - L(+)forms only		**Not Endorsed** - List 335i, ii separately
336i	Monopotassium Tartrate- L(+)form only		**Endorsed**
336ii	Dipotassium L(+)-Tartrate		**Endorsed**
337	Potassium Sodium L(+)-Tartrate - L(+) form only		**Endorsed**
338	Orthophosphoric acid	0.1 g as P_2O_5 Only for pH adjustment	**Not Endorsed** - Clarify if processing aid or food additive
339i, ii, iii	Sodium orthophosphates		**Not Endorsed** - Clarify if processing aid or food additive. If additive, list 339i, ii, iii separately
340i, ii, iii	Potassium orthophosphates		**Not Endorsed** - Clarify if processing aid or food additive. If additive, list 340i, ii, iii separately
341i, ii, iii	Calcium orthophosphates		**Not Endorsed** - Clarify if processing aid or food additive. If additive, list 341i, ii, iii separately
Antioxidants			
306	Mixed tocopherols concentrate	300 mg/kg fat, singly or in combination	**Endorsed**
307	Alpha-tocopherol		**Endorsed**
304	L-Ascorbyl palmitate	200 mg/kg fat	**Endorsed**
300	L-Ascorbic acid	50 mg, expressed as ascorbic acid and within the limits for sodium	**Endorsed**
301	Sodium ascorbate		**Endorsed**
303	Potassium ascorbate		**Endorsed**
302	Calcium ascorbate	20 mg, expressed as ascorbic acid	**Endorsed**

PROPOSED DRAFT REVISED STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN			
INS	**Substance**	**Maximum Level[1] (per 100 g of the product)**	**Endorsement Status**
Enzymes			
	Malt carbohydrases	GMP	**Not Endorsed** - List in separate "Processing Aids" section
Leavening Agents			
503i	Ammonium carbonate	GMP	**Not Endorsed** - Leavening agents not recognized INS functional effect
503ii	Ammonium hydrogen carbonate		**Not Endorsed** - Leavening agents not recognized INS functional effect
500i	Sodium carbonate	GMP	**Not Endorsed** - Leavening agents not recognized INS functional effect; Clarify if processing aid or food additive
500ii	Sodium hydrogen carbonate		**Not Endorsed** - Leavening agents not recognized INS functional effect; Clarify if processing aid or food additive
501i, ii	Potassium carbonates	GMP	**Not Endorsed** - Leavening agents not recognized INS functional effect; Clarify if processing aid or food additive; if additive, list 501i, ii separately
Thickening agents			
410	Carob bean gum	Singly or in combination: 1 g in weaning food 2 g in gluten-free cereal-based foods	**Not Endorsed** - List INS 410, 412, 414, 415 and 440 together as "Singly or in combination: 1 g in weaning food, 2 g in gluten-free cereal-based food"
412	Guar gum		
414	Gum arabic		
415	Xanthan gum	Singly or in combination: 1 g in weaning food 2 g in gluten-free cereal-based foods	
440	Pectins (Amidated and Non-Amidated)		
1404	Oxidized starch	5 g singly or in combination	**Endorsed**
1410	Monostarch phosphate		**Endorsed**
1412	Distarch Phosphate		**Endorsed**
1413	Phosphated Distarch Phosphate		**Endorsed**
1414	Acetylated Distarch Phosphate		**Endorsed**
1422	Acetylated Distarch Adipate		**Endorsed**
1420	Starch acetate esterified with acetic anhydride		**Endorsed**
1450	Starch sodium octenyl succinate		**Endorsed**
1451	Acetylated oxidized starch		**Endorsed**
Anti-caking Agent			
551	Silicon dioxide	0.2 g for dry cereals	**Not Endorsed** - Anti-caking agent not recognized

PROPOSED DRAFT REVISED STANDARD FOR PROCESSED CEREAL-BASED FOODS FOR INFANTS AND YOUNG CHILDREN			
INS	**Substance**	**Maximum Level[1] (per 100 g of the product)**	**Endorsement Status**
	(amorphous)	only	INS functional effect
Packaging Gas (Propellants)			
290	Carbon dioxide	GMP	**Not Endorsed** - Clarify why these additives are needed and basis for safety. Packaging gas (propellant) not recognized INS functional effect
941	Nitrogen	GMP	
942	Nitrous oxide	GMP	
938	Argon	GMP	
939	Helium	GMP	
948	Oxygen	GMP	
949	Hydrogen	GMP	

The following text is to be inserted :

4.0 FOOD ADDITIVES

Only the food additives listed in this Section or in the Codex Advisory List of Vitamin Compounds for Use in Foods for Infants and Children (CAC/GL 10-1979) may be present in the foods described in Section 2.1 of this Standard, as a result of carry-over from a raw material or other ingredient (including food additive) used to produce the food, subject to the following conditions:

a) The amount of the food additive in the raw materials or other ingredients (including food additives) does not exceed the maximum level specified; and
b) The food into which the food additive is carried over does not contain the food additive in greater quantity than would be introduced by the use of the raw materials or ingredients under good manufacturing practice, consistent with the provisions on carry-over in the Preamble of the General Standard for Food Additives (CAC/STAN 192-1995, Rev. 5 (2004)).

The following food additives are acceptable for use in the preparation of processed cereal based foods for infants and young children, as described in Section 2.1 of this Standard (in 100 g of product, ready for consumption prepared following manufacturer's instructions, unless otherwise indicated).

[The table of food additive provisions follows]

PART 3 – CODEX COMMITTEE ON CEREAL PULSES AND LEGUMES

DRAFT STANDARD FOR INSTANT NOODLES (AT STEP 7)

Returned the list of all food additive provisions to CCCPL for revision.

PART 4 – *AD HOC* CODEX INTERGOVERNMENTAL TASK FORCE ON FRUIT JUICES AND NECTARS

GENERAL STANDARD FOR FRUIT JUICES AND NECTARS

ADDITIVES

INS NO.	FOOD ADDITIVE	MAXIMUM LEVEL[5]	ENDORSEMENT STATUS
4.2 Antioxidants			
220–225, 227, 228, 539	Sulphites	50 mg/l (as residual $SO_{2)}$	**Endorsed** the proposed deletion of the footnote "Sulphites should be used only in fruit juices/nectars in bulk dispensers and in certain tropical fruit juices/nectars"

PROCESSING AIDS

FUNCTION	SUBSTANCE	MAXIMUM LEVEL[5]	NOTES	ENDORSEMENT STATUS
Antiafoaming Agent	Polydimethylsiloxane	GMP	Maximum residue limit in the final product not greater than 10 mg/l	**Endorsed**
Clarifying Agents Filtration Aids Flocculating Agents	Sodium caseinate, potassium caseinate Isinglass	GMP (footnote)		**Endorsed** with inclusion of footnote (see below).

(footnote) Use of these processing aids should take into account their allergenic potential. If there is any carry over of these processing aids into finished product, they are subject to ingredient declaration in accordance with Sections 4.2.1.4 and Section 4.2.4 of the Codex General Standard for the Labelling of Prepackaged Foods

[5] Calculated as serve to the consumer.

[5] Calculated as serve to the consumer.

Appendix VI

PROPOSED AMENDMENTS TO THE CODEX PROCEDURAL MANUAL

PROCEDURAL MANUAL OF THE CODEX ALIMENTARIUS COMMISSION

RELATIONS BETWEEN COMMODITY COMMITTEES AND GENERAL COMMITTEES - FOOD ADDITIVES AND CONTAMINANTS[1]

Codex commodity committees should prepare a section on food additives in each draft commodity standard and this section should contain all the provisions in the standard relating to food additives. The section should include the names of those additives which are considered to be technologically necessary or which are widely permitted for use in the food within the maximum levels where appropriate.

All provisions in respect of food additives (including processing aids) and contaminants contained in Codex commodity standards should be referred to the Codex Committee on food Additives and Contaminants preferably after the Standards have been advanced to Step 5 of the Procedure for the Elaboration of Codex Standards or before they are considered by the Commodity Committee concerned at Step 7, though such reference should not be allowed to delay the progress of the Standard to the subsequent Steps of the Procedure.

All provisions in respect of food additives will require to be endorsed by the Codex Committee on Food Additives and Contaminants concerning the safety-in-use (acceptable daily intake (ADI) and other restrictions) and an estimate of the potential and, where possible, the actual intake of the food additives.

In preparing working papers for the Codex Committee on Food Additives, the Secretariat should make a report to the Committee concerning the endorsement of provisions for food additives (including processing aids).. Provisions for food additives should indicate the International Numbering System (INS) number, the ADI, technological justification, proposed level, and whether the additives was previously endorsed (or temporarily endorsed).

When commodity standards are sent to governments for comments at Step 3, they should contain a statement that the provisions “in respect of food additive and contaminants are subject to the endorsement by the Codex Committee on Food Additives and Contaminants and to incorporation into the General Standard for Food Additives or the General Standard for Contaminants and Toxins in Foods”.

When establishing provisions for food additives, Codex committees should follow the Preamble of the General Standard for Food Additives. Full explanation should be provided for any departure from the above recommendations.

[1] 14th Edition, page 93-94

Appendix VII

(PROPOSED DRAFT REVISION)

GENERAL STANDARD FOR FOOD ADDITIVES

CODEX STAN 192

PREAMBLE

1. SCOPE

1.1 Food Additives Included in this Standard

Only the food additives listed herein are recognized as suitable for use in foods in conformance with the provisions of this Standard.[1] Only food additives that have been assigned a full Acceptable Daily Intake (ADI) or given an equivalent safety assessment[2] by the Joint FAO/WHO Expert Committee on Food Additives (JECFA)[3] and an International Numbering System (INS) designation by Codex will be considered for inclusion in this Standard. The use of additives in conformance with this standard is considered to be technologically justified.

1.2 Foods in Which Additives May Be Used

This Standard sets forth the conditions under which food additives may be used in all foods, whether or not they have previously been standardized by Codex. The use of additives in foods standardized by Codex is subject to the conditions of use established by the Codex commodity standards and this standard. The food additive provisions of Codex commodity standards shall be included in and superseded by the provisions of this Standard. Codex commodity committees have the responsibility and expertise to appraise and justify the technological need for the use of additives in foods subject to a commodity standard. The information given by the commodity committees may also be taken into account by the Codex Committee on Food Additives and Contaminants when considering food additive provisions in similar non-standardized foods. When a food is not covered by a commodity committee, Codex Committee on Food Additives and Contaminants will appraise the technological need.

1.3 Foods in Which Additives May Not Be Used

Food categories or individual food items in which the use of food additives is not acceptable, or where use should be restricted, are defined by this Standard.

1.4 Maximum Levels of Use for Food Additives

The primary objective of establishing maximum levels of use for food additives in various food groups is to ensure that the intake of an additive from all its uses does not exceed its ADI.

The food additives covered by this Standard and their maximum levels of use are based in part on the food additive provisions of previously established Codex commodity standards, or upon the request of governments after subjecting the requested maximum levels to an appropriate method for verifying the compatibility of a proposed maximum level with the ADI.

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1 Notwithstanding the provisions of this Section of the General Standard, the lack of reference to a particular additive or to a particular use of an additive in a food in the General Standard as currently drafted, does not imply that the additive is unsafe or unsuitable for use in food. The Commission shall review the necessity for maintaining this footnote on a regular basis, with a view to its deletion once the General Standard is substantially complete.

2 For the purpose of this standard "equivalent safety assessment" means that the use of a food additive does not pose a safety concern under defined circumstances (e.g. use levels defined circumstances).

3 An index of food additives with their current ADI status, the year of their most recent JECFA evaluation, their assigned INS numbers, etc., are available at the Joint Secretariat's web pages at http://www.fao.org/es/ESN/jecfa/index_en.stm for FAO and http://www.who.int/pcs/jecfa/jecfa.htm for WHO. [under development]

Annex A of this Standard may be used as a first step in this regard. The evaluation of actual food consumption data is also encouraged.

2. DEFINITIONS

a) ***Food additive*** means any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may be reasonably expected to result (directly or indirectly), in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include contaminants or substances added to food for maintaining or improving nutritional qualities.[4]

b) ***Acceptable Daily Intake (ADI)*** is an estimate by JECFA of the amount of a food additive, expressed on a body weight basis, that can be ingested daily over a lifetime without appreciable health risk.[5]

c) ***Acceptable Daily Intake "Not Specified" (NS)***[6] is a term applicable to a food substance of very low toxicity for which, on the basis of the available data (chemical, biochemical, toxicological, and other), the total dietary intake of the substance, arising from its use at the levels necessary to achieve the desired effect and from its acceptable background in food, does not, in the opinion of JECFA, represent a hazard to health.

For the above reason, and for reasons stated in individual JECFA evaluations, establishment of an acceptable daily intake expressed in numerical form is not deemed necessary by JECFA. An additive meeting the above criterion must be used within the bounds of good manufacturing practice as defined in section 3.3 below.

d) ***Maximum level of use*** of an additive is the highest concentration of the additive determined to be functionally effective in a food or food category and agreed to be safe by the Codex Alimentarius Commission. It is generally expressed as mg additive/kg of food.

The maximum level will not usually correspond to the optimum, recommended, or typical level of use. Under GMP, the optimum, recommended, or typical use level will differ for each application of an additive and is dependent on the intended technical effect and the specific food in which the additive would be used, taking into account the type of raw material, food processing and post-manufacture storage, transport and handling by distributors, retailers, and consumers.

3. GENERAL PRINCIPLES FOR THE USE OF FOOD ADDITIVES[7]

The use of food additives in conformance with this Standard requires adherence to all the principles set forth in Sections 3.1 – 3.4.

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4 Codex Alimentarius Procedural Manual.

5 Principles for the Safety Assessment of Food Additives and Contaminants in Food, World Health Organization, (WHO Environmental Health Criteria, No. 70), p. 111 (1987). For the purposes of this Standard, the phrase "without appreciable health risk" means that there is a reasonable certainty of no harm to consumers if an additive is used at levels that do not exceed those in this Standard. The provisions of this Standard do not sanction the use of an additive in a manner that would adversely affect consumer health.

6 For purposes of this Standard, the phrase acceptable daily intake (ADI) "not limited" (NL) has the same meaning as ADI "not specified". The phrase "acceptable ADI" refers to an ADI which is more appropriately limited by the level of treatment of the food, rather than on a mg additive per kg body weight per day basis (see, Summary of Evaluations Performed by the Joint FAO/WHO Expert Committee on Food Additives at http://jecfa.ilsi.org).

7 General Principles for the Use of Food Additives were originally adopted by the Ninth Session of the Codex Alimentarius as a Codex Advisory Text (para. 295, ALINORM 72/35). Pertinent portions of the Text are incorporated as an integral part of this Standard, suitable modifications having been made as necessary with respect to the present context.

3.1 Food Additive Safety

a) Only those food additives shall be endorsed and included in this Standard that, so far as can be judged on the evidence presently available from JECFA, present no appreciable health risk to consumers at the levels of use proposed.

b) The inclusion of a food additive in this Standard shall have taken into account any ADI, or equivalent safety assessment established for the additive by JECFA and its probable daily intake[8] from all food sources. Where the food additive is to be used in foods eaten by special groups of consumers (e.g., diabetics, those on special medical diets, sick individuals on formulated liquid diets), account shall be taken of the probable daily intake of the food additive by those consumers.

c) The quantity of an additive added to food is at or below the maximum level and is the lowest level necessary to achieve the intended technical effect. The maximum level may be based on the application of the procedures of Annex A, the intake assessment of Codex members or upon a request by the CCFAC to JECFA for an independent evaluation of national intake assessments.

3.2 Justification for the Use of Additives

The use of food additives is justified only when such use has an advantage, does not present an appreciable health risk to consumers, does not mislead the consumer, and serves one or more of the technological functions set out by Codex and the needs set out from (a) through (d) below, and only where these objectives cannot be achieved by other means that are economically and technologically practicable:

a) to preserve the nutritional quality of the food; an intentional reduction in the nutritional quality of a food would be justified in the circumstances dealt with in sub-paragraph (b) and also in other circumstances where the food does not constitute a significant item in a normal diet;

b) to provide necessary ingredients or constituents for foods manufactured for groups of consumers having special dietary needs;

c) to enhance the keeping quality or stability of a food or to improve its organoleptic properties, provided that this does not change the nature, substance or quality of the food so as to deceive the consumer;

d) to provide aids in the manufacture, processing, preparation, treatment, packing, transport or storage of food, provided that the additive is not used to disguise the effects of the use of faulty raw materials or of undesirable (including unhygienic) practices or techniques during the course of any of these activities.

3.3 Good Manufacturing Practice (GMP)[9]

All food additives subject to the provisions of this Standard shall be used under conditions of good manufacturing practice, which include the following:

a) the quantity of the additive added to food shall be limited to the lowest possible level necessary to accomplish its desired effect;

b) the quantity of the additive that becomes a component of food as a result of its use in the manufacturing, processing or packaging of a food and which is not intended to accomplish any physical, or other technical effect in the food itself, is reduced to the extent reasonably possible; and,

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8 Codex members may provide the Codex Committee on Food Additives and Contaminants (CCFAC) with intake information that may be used by the CCFAC in establishing maximum levels of use. Additionally, the JECFA, at the request of the CCFAC, will evaluate intakes of additives based on intake assessments submitted by Codex members responding to a call for data. The CCFAC will consider the JECFA evaluations when establishing the maximum use levels for additives.

9 For additional information, see the Codex Alimentarius Commission Procedural Manual. Relations Between Commodity Committees and General Committees- Food Additives and Contaminants.

c) the additive is of appropriate food grade quality and is prepared and handled in the same way as a food ingredient.

3.4 Specifications for the Identity and Purity of Food Additives

Food additives used in accordance with this Standard should be of appropriate food grade quality and should at all times conform with the applicable Specifications of Identity and Purity recommended by the Codex Alimentarius Commission[10] or, in the absence of such specifications, with appropriate specifications developed by responsible national or international bodies. In terms of safety, food grade quality is achieved by conformance of additives to their specifications as a whole (not merely with individual criteria) and through their production, storage, transport, and handling in accordance with GMP.

4. CARRY-OVER OF FOOD ADDITIVES INTO FOODS[11]

4.1 Conditions Applying to Carry-Over of Food Additives

Other than by direct addition, an additive may be present in a food as a result of carry-over from a raw material or ingredient used to produce the food. An additive may be used in a raw material or other ingredient if the raw material or ingredient is used exclusively in the preparation of a food that is in conformity with the provisions of this standard.

The additive is acceptable for use in the raw materials or other ingredients (including food additives) according to this Standard;

a) The amount of the additive in the raw materials or other ingredients (including food additives) does not exceed the maximum level specified in this Standard;

b) The food into which the additive is carried over does not contain the additive in greater quantity than would be introduced by the use of raw materials, or ingredients under proper technological conditions or manufacturing practice, consistent with the provisions of this standard.

4.2 Foods for Which the Carry-over of Food Additives is Unacceptable

Carry-over of a food additive from a raw material or ingredient is unacceptable in the following food categories, unless a food additive provision in the specified category is listed in Tables 1 and 2 of this standard.

a) 13.1 - Infant formulae, follow-up formulae, and formulae for special medical purposes for infants.
b) 13.2 - Complementary foods for infants and young children.

5. FOOD CATEGORY SYSTEM[12]

The food category system is a tool for assigning food additive uses in this Standard. The food category system applies to all foodstuffs.

The food category descriptors are not to be legal product designations nor are they intended for labelling purposes.

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[10] An index (CAC/MISC 6 – 2001) of all specifications adopted by the Codex Alimentarius Commission, as well as the year of adoption, is available at the Codex website (http://www.codexalimentarius.net/web/standard_list.do?lang=en). These specifications, prepared by the JECFA, are also being published in the FAO Food and Nutrition Paper series as the "Compendium of Food Additive Specifications," which consists of two volumes published in 1992 and a subsequent series of addenda. The specifications are also available at the JECFA website (http://www.fao.org/es/esn/Jecfa/database/cover.htm). However, neither this website nor the addenda to the Compendium contain information that shows which specifications have been adopted by Codex.

[11] The principle relating to the carry-over of food additives into foods (the "Carry-Over Principle") addresses the presence of additives in food as a result of the use of raw materials or other ingredients in which these additives are used. The Codex Alimentarius Commission at its 17th Session (1987) adopted a revised statement of the principle as a Codex Advisory Text. The Carry-Over Principle applies to all foods covered by Codex standards, unless otherwise specified in such standards.

[12] Annex B to this Standard.

The food category system is based on the following principles:

a) The food category system is hierarchical, meaning that when an additive is recognized for use in a general category, it is recognized for use in all its sub-categories, unless otherwise stated. Similarly, when an additive is recognized for use in a sub-category, its use is recognized in any further sub-categories or individual foodstuffs mentioned in a sub-category.

b) The food category system is based on product descriptors of foodstuffs as marketed, unless otherwise stated.

c) The food category system takes into consideration the carry-over principle. By doing so, the food category system does not need to specifically mention compound foodstuffs (e.g., prepared meals, such as pizza, because they may contain, *pro rata*, all the additives endorsed for use in their components), unless the compound foodstuff needs an additive that is not endorsed for use in any of its components.

d) The food category system is used to simplify the reporting of food additive uses for assembling and constructing this Standard.

6. DESCRIPTION OF THE STANDARD

This Standard consists of three main components:

a) Preamble

b) Annexes

i. Annex A is a guideline for considering maximum use levels for additives with numerical JECFA ADIs.

ii. Annex B is a listing of the food category system used to develop and organize Tables 1, 2, and 3 of the standard. Descriptors for each food category and sub-category are also provided.

iii. Annex C is a cross-reference of the food category system and Codex commodity standards.

c) Food Additive Provisions

i. Table 1 specifies, for each food additive or food additive group (in alphabetical order) with a numerical JECFA ADI, the food categories (or foods) in which the additive is recognized for use, the maximum use levels for each food or food category, and its technological function. Table 1 also includes the uses of those additives with non-numerical ADIs for which a maximum use level is specified.

ii. Table 2 contains the same information as Table 1, but the information is arranged by food category number.

iii. Table 3 lists additives with Not Specified or Not Limited JECFA ADIs that are acceptable for use in foods in general when used at *quantum satis* levels and in accordance with the principles of good manufacturing practice described in Section 3.3 of this preamble.

The Annex to Table 3 lists food categories and individual food items excluded from the general conditions of Table 3. The provisions in Tables 1 and 2 govern the use of additives in the food categories listed in the Annex to Table 3.

Unless otherwise specified, maximum use levels for additives in Tables 1 and 2 are set on the final product as consumed.

Tables 1, 2, and 3 do not include references to the use of substances as processing aids.[13]

[13] Processing Aid means any substance or material, not including apparatus or utensils, and not consumed as a food ingredient by itself, intentionally used in the processing of raw materials, foods or its ingredients to fulfill a certain technological purpose during treatment or processing and which may result in the non-intentional but unavoidable presence of residues or derivatives in the final product: Codex Alimentarius Commission Procedural Manual.

7. REVIEW AND REVISION OF THE STANDARD

7.1 Review

The food additive provisions for this Standard shall be reviewed by CCFAC on a regular basis and revised as necessary in light of revisions of the risk assessment by JECFA or of changing technological need and justification for use.

- If JECFA changes an ADI to a Temporary ADI, the food additive provisions of this Standard may remain unchanged until the ADI has been withdrawn or the full status has been restored by JECFA.
- If JECFA withdraws an ADI the food additive provisions of this Standard shall be amended by removing all provision for the use of the additive.

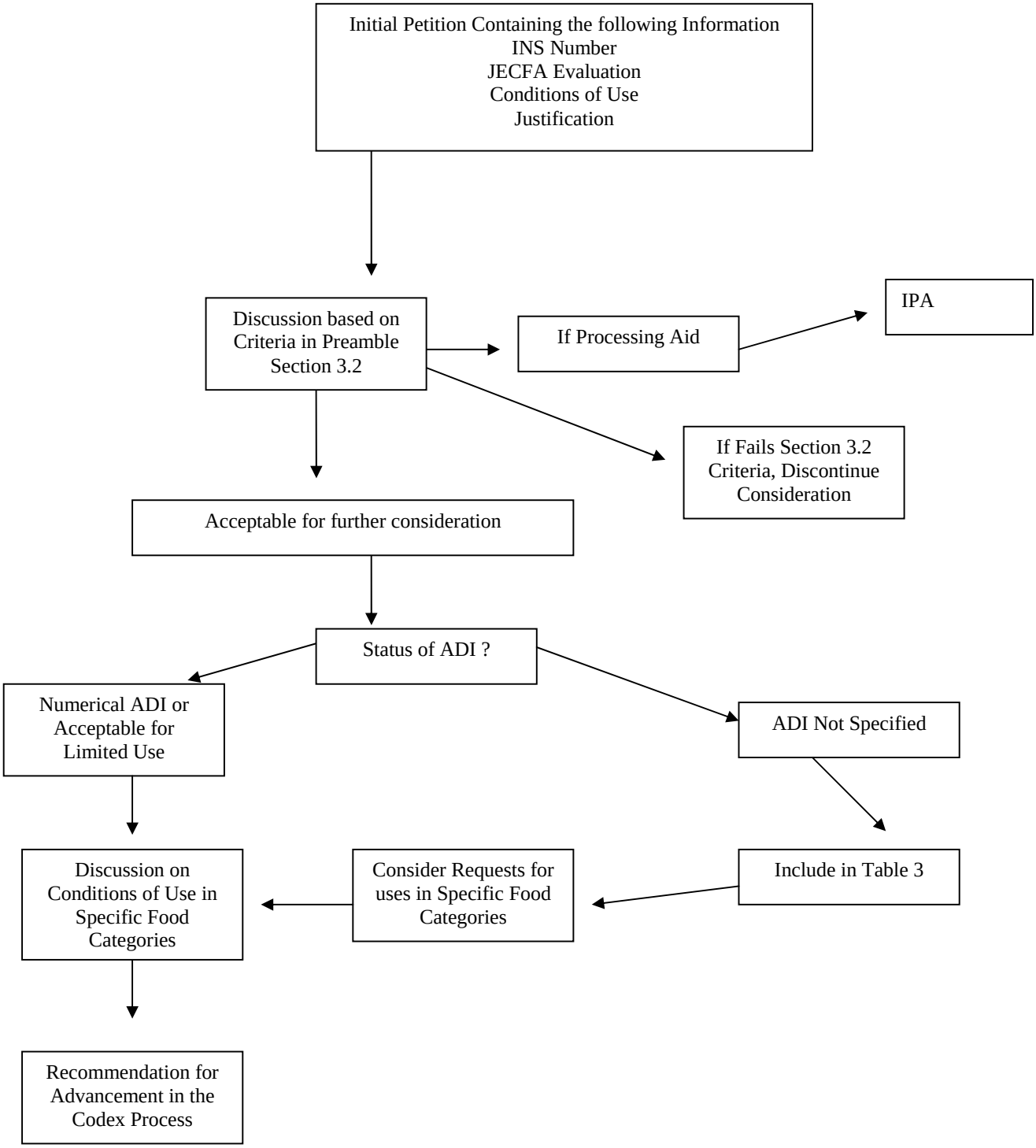
7.2 Revision

The food additive provisions of this Standard may be revised by CCFAC after requests submitted by Codex Committees, Codex members, or the Codex Alimentarius Commission. Information to support amendment of this Standard shall be provided by the proposing body. Supporting information provided to the CCFAC should include, as appropriate:

- Specifications for the food additive;
- A summary of the JECFA safety evaluation of the food additive;
- The food categories or sub-categories in which the additive is intended to be used;
- An indication of the technological need / justification for the additive, referencing one or more of the General Principles for the Use of Food Additives in this Standard (Section 3);
- Maximum use levels for the food additive in the specified food categories:
    - For additives with a numerical ADI, a numerical maximum level for each specified use;
    - For additives with an ADI Not Specified or Not Limited, a recommendation to list the additive in Table 3 accompanied by additional proposals for inclusion in Tables 1 and 2 for use in the food categories listed in the Annex to Table 3, as appropriate;
- A justification of the maximum use levels from a technological point-of-view; and an indication, by means of an exposure assessment, that this level meets the safety requirements enumerated in Section 3.1 of this Standard.
- A reasoned statement that consumers will not be misled by the use of the additive.

The Codex Committee for Food Additives and Contaminants shall consider all amendments to this Standard proposed by Codex Committees, Codex members, or the Codex Alimentarius Commission.

Proposed Procedure for Consideration of the Entry and Review of Food Additives in the GSFA



Appendix VIII

LIST OF ADDITIVES FOR REVIEW BY THE CCFAC ELECTRONIC WORKING GROUP ON THE GSFA

INS No.	Additive
903	Carnauba Wax
210, 211, 212, 213	Benzoates
900a	Polydimethylsiloxane
477	Propylene Glycol Esters of Fatty Acids
385, 386	EDTAs
320	Butylated Hydroxyanisole (BHA)
321	Butylated Hydroxytoluene (BHT)
319	Tertiary Butylhydroxyquinone (TBHQ)
472	Diacetyltartaric and Fatty Acid Esters of Glycerol (DATEM)
220, 221, 222, 223, 224, 225, 227, 228, 539	Sulfites
161g	Canthaxanthin
127	Erythrosine
172i, 172ii, 172iii	Iron Oxides
133	Brilliant Blue FCF
120	Carmines
160aii	Carotenes, Vegetable
1503	Castor Oil
141i & 141ii	Chlorophyll, Copper Complexes
163ii	Grape Skin Extract
432,433, 434, 435, 436	Polysorbates
101i, 101ii	Riboflavins
928	Benzoyl Peroxide
150c	Caramel Colour Class III
150d	Caramel Colour Class IV
143	Fast Green FCF
129	Allura Red AC
160ai,aii,e,f	Carotenoids
132	Indigotine
124	Ponceau 4R
110	Sunset Yellow FCF
951	Aspartame
950	Acesulfame Potassium
955	Sucralose
954	Saccharin
956	Alitame
961	Neotame
1203	Polyvinyl Alcohol
952	Cyclamic Acid (Sodium, Potassium, and Calcium Salts)

Appendix IX

CODEX GENERAL STANDARD FOR FOOD ADDITIVES

REQUEST FOR ADDITIONAL INFORMATION

CARNAUBA WAX

Carnauba Wax INS: 903

Function: Anticaking Agent, Adjuvant, Bulking Agent, Carrier Solvent, Glazing Agent, Release Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
05.1.4	Cocoa and chocolate products	10000	mg/kg	Note 3	3	
05.1.5	Imitation chocolate, chocolate substitute products	10000	mg/kg	Note 3	3	
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	10000	mg/kg	Note 3	3	
13.6	Food supplements	500	mg/kg	Note 3	3	
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	200	mg/kg	Note 108	3	
15.0	Ready-to-eat savouries	2000	mg/kg	Note 3	3	

BENZOATES

Benzoic Acid INS: 210 Sodium Benzoate INS: 211
Potassium Benzoate INS: 212 Calcium Benzoate INS: 213

Function: Preservative

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.5	jams, jellies and marmelades	1500	mg/kg	Note 13	3	
12.5.1	soups and broths	1000	mg/kg	Note 13	6	
12.9.1.3	Other soybean protein products (including non-fermented soy sauce)	1000	mg/kg	Note 13	3	

QUILLAIA EXTRACT

Additional information is requested to clarify the use levels relative to the adopted level.

QUILLAIA EXTRACT

Quillaia Extract INS: 999

Function: Foaming Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500	mg/kg		6	

POLYDIMETHYLSILOXANE

Polydimethylsiloxane INS: 900a

Function: Anticaking Agent, Antifoaming Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.2.2.1	frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10	mg/kg	Note 15	Adopted	
12.9.1.3	Other soybean protein products (including non-fermented soy sauce)	50	mg/kg		6	
12.10.3	Fermented soybean paste (e.g., miso)	50	mg/kg		6	

PROPYLENE GLYCOL ESTERS OF FATTY ACIDS
Information is requested to justify the higher maximum use level proposed for food category 02.4

PROPYLENE GLYCOL ESTERS OF FATTY ACIDS

Propylene Glycol Esters of Fatty Acids INS: 477

Function: Emulsifier, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.2.1.3	blends of butter and margarine	10000	mg/kg		3	
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	40000	mg/kg		6	

EDTAs
Information is requested to justify the proposed use levels.

EDTAs

Calcium Disodium Ethylene Diamine Tetra Acetate INS: 385

Disodium Ethylene Diamine Tetra Acetate INS: 386

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	100	mg/kg	Notes 21 & 110	6	
14.2.7	Aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	25	mg/kg	Note 21	6	

BHA
Information is request to clarify whether some proposed uses are due to carry-over (e.g., 0.1.1.2, 01.7, 04.1.2.7, 04.1.2.9, 06.5).

BHA

Butylated Hydroxyanisole INS: 320

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey- based drinks)	200	mg/kg	Notes 15 & 88	3	
01.3.1	Condensed milk (plain)	100	mg/kg	Note 88	6	
01.3.1	Condensed milk (plain)	200	mg/kg	Notes 15 & 88	3	
01.5.1	Milk powder and cream powder (plain)	200	mg/kg	Note 15	6	
01.5.2	Milk and cream powder analogues	100	mg/kg		6	
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	2	mg/kg		6	
02.0	Fats and oils, and fat emulsions	200	mg/kg	Note 15	6	
03.0	Edible ices, including sherbet and sorbet	200	mg/kg	Note 15	6	
04.1.2.2	Dried fruit	200	mg/kg		6	
04.1.2.7	Candied fruit	32	mg/kg		6	
04.1.2.9	Fruit-based desserts, including fruit-flavoured water- based desserts	2	mg/kg		6	
04.1.2.12	Cooked fruit	100	mg/kg		6	
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	200	mg/kg	Note 15	6	
05.1.4	Cocoa and chocolate products	200	mg/kg	Note 15	6	
05.1.5	Imitation chocolate, chocolate substitute products	200	mg/kg	Note 15	6	
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200	mg/kg	Note 15	6	
05.3	Chewing gum	750	mg/kg		6	
05.4	Decorations (e.g., for fine bakery wares), toppings (non-fruit), and sweet sauces	200	mg/kg	Note 15	6	

BHA

Butylated Hydroxyanisole INS: 320

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
06.4.3	Pre-cooked pastas and noodles and like products	200	mg/kg	Note 15		3
06.5	Cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	2	mg/kg			6
07.0	Bakery wares	200	mg/kg	Note 15		6
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg			6
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg	Note 15		6
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
10.4	Egg-based desserts (e.g., custard)	2	mg/kg			6
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	20	mg/kg			6
12.5	Soups and broths	200	mg/kg	Note 15		6
12.8	Yeast and like products	1000	mg/kg			6
13.6	Food supplements	400	mg/kg			6
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000	mg/kg	Note 15		6

BHT

Butylated Hydroxytoluene INS: 321

Function: Adjuvant, Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey- based drinks)	200	mg/kg	Notes 15 & 88		3
01.3.1	Condensed milk (plain)	100	mg/kg	Note 88		6
01.3.1	Condensed milk (plain)	200	mg/kg	Notes 15 & 88		3
01.5.1	Milk powder and cream powder (plain)	200	mg/kg	Note 15		6
01.5.2	Milk and cream powder analogues	100	mg/kg			6
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	90	mg/kg	Note 2		6
02.1	Fats and oils essentially free from water	200	mg/kg	Note 15		6
02.2.1.1	Butter and concentrated butter	200	mg/kg	Note 15		6
02.2.1.2	Margarine and similar products	500	mg/kg			6
03.0	Edible ices, including sherbet and sorbet	100	mg/kg	Note 15		6
04.1.2.9	Fruit-based desserts, including fruit-flavoured water- based desserts	90	mg/kg	Note 2		6
04.1.2.12	Cooked fruit	100	mg/kg			6
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	200	mg/kg	Note 15		6
05.1.4	Cocoa and chocolate products	200	mg/kg	Note 15		6
05.1.5	Imitation chocolate, chocolate substitute products	200	mg/kg	Note 15		6
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	200	mg/kg	Note 15		6
05.3	Chewing gum	750	mg/kg			6
05.4	Decorations (e.g., for fine bakery wares), toppings (non- fruit) and sweet sauces	200	mg/kg	Note 15		6
06.1	Whole, broken, or flaked grain, including rice	200	mg/kg			6
06.3	Breakfast cereals, including rolled oats	50	mg/kg			6
06.4.3	Pre-cooked pastas and noodles and like products	200	mg/kg			6
06.5	Cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	90	mg/kg	Note 2		6
07.0	Bakery wares	200	mg/kg	Note 15		6
08.2	Processed meat, poultry, and game products in whole pieces or cuts	100	mg/kg	Note 15		6

BHT

Butylated Hydroxytoluene INS: 321

Function: Adjuvant, Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
08.3	Processed comminuted meat, poultry, and game products	100	mg/kg	Note 15		6
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg			6
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg	Note 15		6
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg			6
10.4	Egg-based desserts (e.g., custard)	90	mg/kg	Note 2		6
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	20	mg/kg			6
12.2	Herbs, spices, seasonings and condiments (e.g., seasoning for instant noodles)	200	mg/kg	Note 15		6
12.5	Soups and broths	200	mg/kg	Note 15		6
12.6	Sauces and like products	200	mg/kg	Note 15		6
13.6	Food supplements	400	mg/kg			6
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000	mg/kg	Note 15		6
15.0	Ready-to-eat savouries	200	mg/kg	Note 15		6

TBHQ

Tertiary Butylhydroquinone INS: 319

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.3.1	Condensed milk (plain)	100	mg/kg	Note 88		6
01.3.1	Condensed milk (plain)	200	mg/kg			3
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	200	mg/kg			6
02.0	Fats and oils, and fat emulsions	200	mg/kg	Note 15		6
03.0	Edible ices, including sherbet and sorbet	200	mg/kg	Note 15		6
04.1.2.2	Dried fruit	200	mg/kg			6
04.2.2.5	Vegetable, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	200	mg/kg	Note 15		6
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3, and 05.4	200	mg/kg	Note 15		6
05.3	Chewing gum	750	mg/kg			6
05.4	Decorations (e.g., for fine bakery wares), toppings (non-fruit), and sweet sauces	200	mg/kg	Note 15		3
06.4.3	Pre-cooked pastas and noodles and like products	200	mg/kg	Note 15		6
07.1.1	Breads and rolls	200	mg/kg			6
07.1.2	Crackers, excluding sweet crackers	200	mg/kg			6
07.1.3	Other ordinary bakery products (e.g., bagels, pita, English muffins)	200	mg/kg			6
07.1.4	Bread-type products, including bread stuffing and bread crumbs	200	mg/kg			6
08.2	Processed meat, poultry, and game products in whole pieces or cuts	100	mg/kg	Note 15		6
08.3	Processed comminuted meat, poultry, and game products	100	mg/kg	Note 15		6
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg			6
12.4	mustards	200	mg/kg			6
12.5	Soups and broths	200	mg/kg	Note 15		6
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000	mg/kg	Note 15		6

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Clarification on the use in glazes in meat (08.0) and fish (09.0) categories.

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e Tartaric, Acetic & Fatty Acid Esters of Glycerol (Mixed) INS: 472f

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.1.2	Buttermilk (plain)	5000	mg/kg			3
01.4	Cream (plain) and the like		GMP			6
01.5.1	Milk powder and cream powder (plain)	10000	mg/kg			6
01.6.1	Unripened cheese	10000	mg/kg			6
02.1	fats and oils essentially free from water	10000	mg/kg			6
02.2	Fat emulsions mainly of type water-in-oil	10000	mg/kg			6
03.0	edible ices, including sherbet and sorbet	10000	mg/kg			3
03.0	edible ices, including sherbet and sorbet	1000	mg/kg			6
04.1.1.2	surface-treated fresh fruit	10000	mg/kg	Note 16		3
04.1.2.12	Cooked fruit	2500	mg/kg			3
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10000	mg/kg	Note 16		3
06.2	flours and starches (including soybean powder)	5000	mg/kg			6
06.4.2	dried pastas and noodles and like products	10000	mg/kg			6
07.0	bakery wares	20000	mg/kg			3
07.0	bakery wares	10000	mg/kg			6
08.1.1	fresh meat, poultry, and game, whole pieces or cuts	10000	mg/kg	Note 16		3
08.1.2	fresh meat, poultry, and game, comminuted	10000	mg/kg			3
08.2.1	Non-heat treated processed meat, poultry, and game products in whole pieces or cuts	10000	mg/kg			3
08.2.2	Heat-treated processed meat, poultry, and game products in whole pieces or cuts	10000	mg/kg			3
08.2.3	Frozen processed meat, poultry, and game products in whole pieces or cuts	10000	mg/kg	Note 16		3
08.3.1	Non-heat treated processed comminuted meat, poultry, and game products	10000	mg/kg			3
08.3.2	Heat-treated processed comminuted meat, poultry, and game products	10000	mg/kg			3
08.3.3	Frozen processed comminuted meat, poultry, and game products	10000	mg/kg	Note 16		3
08.4	Edible casings (e.g., sausage casings)	10000	mg/kg			3
09.1	fresh fish and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg	Note 16		3
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg			3
09.2.2	Frozen battered fish, fish fillets and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg	Note 16		3
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg	Note 16		3
09.2.4	Cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg			3
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg			3
09.3	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms	10000	mg/kg			3
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	5000	mg/kg			3
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	1000	mg/kg			3
12.1.2	Salt substitutes		GMP			6
12.2.1	herbs and spices		GMP	Note 51		6
12.3	Vinegars	1000	mg/kg			3
13.1.1	infant formulae	5000	mg/kg			3
13.1.2	follow-up formulae	5000	mg/kg			3
14.1.2.2	Vegetable juice	5000	mg/kg			3
14.1.2.4	Concentrates for vegetable juice	5000	mg/kg			3
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	5000	mg/kg			3

SULPHITES

Clarification on the use levels reported in the Note to food category 11.1.3.

SULPHITES

Sulphur Dioxide	INS: 220	Sodium Sulphite	INS: 221
Sodium Hydrogen Sulphite	INS: 222	Sodium Metabisulphite	INS: 223
Potassium Metabisuphite	INS: 224	Potassium Sulphite	INS: 225
Calcium Hydrogen Sulphite	INS: 227	Potassium Bisulphite	INS: 228
Sodium Thiosulphate	INS: 539		

Function: Acidity Regulator, Adjuvant, Antioxidant, Bleaching Agent (Not for Flour), Flour Treatment Agent, Firming Agent, Preservative, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.6.4.1	plain processed cheese	300	mg/kg	Note 44		6
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	100	mg/kg	Note 44		6
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	50	mg/kg	Note 44		3
03.0	edible ices, including sherbet and sorbet	100	mg/kg	Note 44		6
04.1.1.2	surface-treated fresh fruit	1000	mg/kg	Note 44		3
04.1.1.2	surface-treated fresh fruit	30	mg/kg	Note 44		6
04.1.2.1	frozen fruit	500	mg/kg	Note 44		6
04.1.2.2	dried fruit	3000	mg/kg	Note 44		6
04.1.2.3	fruit in vinegar, oil, or brine	350	mg/kg	Note 44		6
04.1.2.4	canned or bottled (pasteurized) fruit	350	mg/kg	Note 44		6
04.1.2.5	jams, jellies and marmelades	3000	mg/kg	Note 44		6
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg	Note 44		6
04.1.2.7	candied fruit	350	mg/kg	Note 44		6
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	3000	mg/kg	Note 44		6
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	750	mg/kg	Note 44		6
04.1.2.10	fermented fruit products	350	mg/kg	Note 44		6
04.1.2.11	fruit fillings for pastries	350	mg/kg	Note 44		6
04.2.1.3	peeled, cut or shredded fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500	mg/kg	Notes 44 & 76		6
04.2.2.1	frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	750	mg/kg	Note 44		6
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	2500	mg/kg	Notes 44 & 105		6
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	750	mg/kg	Note 44		6
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	750	mg/kg	Note 44		6
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	750	mg/kg	Note 44		
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	800	mg/kg	Note 44		6
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	1000	mg/kg	Note 44		6
04.2.2.8	cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	750	mg/kg	Note 44		6
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	100	mg/kg	Note 44		6
05.3	chewing gum	150	mg/kg	Note 44		6
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	100	mg/kg	Note 44		6
06.2.1	flours	900	mg/kg	Note 44		6
06.2.2	starches	500	mg/kg	Note 44		6
06.4.3	pre-cooked pastas and noodles and like products	20	mg/kg	Note 44		6
07.1.1	breads and rolls	100	mg/kg	Note 29		6
07.1.3	other ordinary bakery products (e.g., bagels, pita, English	50	mg/kg	Note 44		6

SULPHITES

Sulphur Dioxide	INS: 220	Sodium Sulphite	INS: 221
Sodium Hydrogen Sulphite	INS: 222	Sodium Metabisulphite	INS: 223
Potassium Metabisuphite	INS: 224	Potassium Sulphite	INS: 225
Calcium Hydrogen Sulphite	INS: 227	Potassium Bisulphite	INS: 228
Sodium Thiosulphate	INS: 539		

Function: Acidity Regulator, Adjuvant, Antioxidant, Bleaching Agent (Not for Flour), Flour Treatment Agent, Firming Agent, Preservative, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	muffins)					
07.1.4	bread-type products, including bread stuffing and bread crumbs	500	mg/kg	Note 44	6	
07.2	fine bakery wares (sweet, salty, savoury) and mixes	300	mg/kg	Note 44	6	
08.1.2	fresh meat, poultry, and game, comminuted	450	mg/kg	Note 44	6	
08.3	processed comminuted meat, poultry, and game products	500	mg/kg	Note 44	6	
08.4	edible casings (e.g., sausage casings)	500	mg/kg	Note 44	6	
09.1.2	fresh mollusks, crustaceans, and echinoderms	150	mg/kg	Note 44	6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 44	6	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms	50	mg/kg	Note 44	6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg	Note 44	6	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 44	6	
11.1.3	soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar	20	mg/kg	Notes 44 & 132	6	
11.1.4	lactose	20	mg/kg	Note 44	6	
11.2	brown sugar excluding products of food category 11.1.3	40	mg/kg	Note 44	3	
11.3	sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	500	mg/kg	Note 44	6	
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	40	mg/kg	Note 44	6	
12.1.1	salt	1000	mg/kg	Note 29	6	
12.2.2	seasonings and condiments	500	mg/kg	Note 44	3	
12.2.2	seasonings and condiments	200	mg/kg	Note 44	6	
12.3	vinegars	200	mg/kg	Note 44	6	
12.4	mustards	250	mg/kg	Notes 44 & 106	6	
12.5	soups and broths	1000	mg/kg	Note 44	6	
12.6	sauces and like products	300	mg/kg	Note 44	6	
12.9.5	other protein products	500	mg/kg	Note 44	6	
14.1.2.2	vegetable juice	500	mg/kg	Note 44	6	
14.1.2.4	concentrates for vegetable juice	70	mg/kg	Note 44	6	
14.1.3.2	vegetable nectar	50	mg/kg	Note 44	6	
14.1.3.4	concentrates for vegetable nectar	70	mg/kg	Note 44	6	
14.1.4.1	carbonated water-based flavoured drinks	115	mg/kg	Note 44	6	
14.1.4.2	non-carbonated water-based flavoured drinks, including punches and ades	250	mg/kg	Note 44	6	
14.1.4.3	concentrates (liquid or solid) for water-based flavoured drinks	350	mg/kg	Note 44	6	
14.2.1	beer and malt beverages	100	mg/kg	Note 44	6	
14.2.2	cider and perry	350	mg/kg	Note 44	6	
14.2.3	grape wines	350	mg/kg	Notes 44 & 103	6	
14.2.4	wines (other than grape)	350	mg/kg	Note 44	6	
14.2.5	mead	350	mg/kg	Note 44	6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	300	mg/kg	Note 44	6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	350	mg/kg	Note 44	6	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	50	mg/kg	Note 44	6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	500	mg/kg	Note 44	6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	500	mg/kg	Note 44	6	

CANTHAXANTHIN

As appropriate, provide numerical use levels for uses reported as GMP.

CANTHAXANTHIN

Canthaxanthin INS: 161g

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP		6	
01.6	cheese and analogues		GMP		6	
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)		GMP		6	
02.0	fats and oils, and fat emulsions		GMP		6	
04.1.2.5	jams, jellies and marmalades	200	mg/kg		6	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5		GMP		6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk		GMP		6	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP		6	
04.1.2.11	fruit fillings for pastries		GMP		6	
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	8.2	mg/kg		6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce		GMP		6	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	50	mg/kg		6	
05.3	chewing gum	300	mg/kg		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP		6	
06.3	breakfast cereals, including rolled oats	50	mg/kg		3	
06.3	breakfast cereals, including rolled oats	35	mg/kg		6	
06.4.2	dried pastas and noodles and like products		GMP		6	
06.4.3	pre-cooked pastas and noodles and like products		GMP		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)		GMP		6	
07.0	bakery wares		GMP		6	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts	100	mg/kg		6	
08.1.2	fresh meat, poultry, and game, comminuted	1000	mg/kg	Note 94	6	
08.3.1.1	cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	100	mg/kg	Note 118	6	
08.3.2	heat-treated processed comminuted meat, poultry, and game products	15	mg/kg		6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP		6	
09.2.4.1	cooked fish and fish products	200	mg/kg		6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP		6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 22	6	
09.3.3	salmon substitutes, caviar, and other fish roe products		GMP		6	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	100	mg/kg		6	
10.4	egg-based desserts (e.g., custard)		GMP		6	
11.3	sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3		GMP		6	
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)		GMP		6	
12.2.2	seasonings and condiments		GMP		6	
12.5.2	mixes for soups and broths	100	mg/kg		6	
12.6	sauces and like products	100	mg/kg		6	
12.9.5	other protein products	100	mg/kg		6	
14.1.4.2	non-carbonated water-based flavoured drinks, including punches and ades	5	mg/kg		6	
14.1.4.3	concentrates (liquid or solid) for water-based flavoured drinks	100	mg/kg		6	
14.2.1	beer and malt beverages	5	mg/kg		6	
14.2.3	grape wines	5	mg/kg		6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	5	mg/kg		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and	5	mg/kg		3	

CANTHAXANTHIN

Canthaxanthin INS: 161g

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	spirituous cooler-type beverages, low alcoholic refreshers)					
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)		GMP		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15		GMP	Note 2	6	

ERYTHROSINE

Erythrosine INS: 127

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	300	mg/kg		6	
01.6.2.2	rind of ripened cheese	100	mg/kg		6	
01.6.4.2	flavoured processed cheese, including containing fruit, vegetables, meat, etc.	100	mg/kg	Notes 5 & 72	6	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	300	mg/kg		6	
02.1.3	Lard, tallow, fish oil, and other animal fats	300	mg/kg		3	
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	300	mg/kg			
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	300	mg/kg		6	
03.0	edible ices, including sherbet and sorbet	300	mg/kg		6	
04.1.2.4	canned or bottled (pasteurized) fruit	300	mg/kg		6	
04.1.2.5	jams, jellies and marmalades	400	mg/kg		6	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	300	mg/kg		6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	300	mg/kg		6	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	300	mg/kg		6	
04.1.2.11	fruit fillings for pastries	300	mg/kg		6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	300	mg/kg		6	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	300	mg/kg		3	
05.1.3	cocoa-based spreads, including fillings	100	mg/kg		6	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	300	mg/kg		6	
05.3	chewing gum	200	mg/kg		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	300	mg/kg		6	
06.3	breakfast cereals, including rolled oats	300	mg/kg		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	300	mg/kg		6	
07.0	bakery wares	300	mg/kg		6	
08.1	Fresh meat, poultry and game	30	mg/kg	Notes 3 & 4	3	
08.2	processed meat, poultry, and game products in whole pieces or cuts	30	mg/kg		6	
08.3	processed comminuted meat, poultry, and game products	30	mg/kg		6	
08.4	edible casings (e.g., sausage casings)	3000	mg/kg		3	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg		6	
09.2.4.1	cooked fish and fish products	300	mg/kg		6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg		6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg		6	
09.3.3	salmon substitutes, caviar, and other fish roe products	300	mg/kg		6	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	1500	mg/kg		3	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg		6	

ERYTHROSINE

Erythrosine INS: 127

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
10.1	Fresh eggs	300	mg/kg		3	
10.4	egg-based desserts (e.g., custard)	300	mg/kg		6	
11.3	sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	300	mg/kg		6	
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	300	mg/kg		6	
11.6	table-top sweeteners, including those containing high-intensity sweeteners	300	mg/kg		6	
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	300	mg/kg		6	
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	300	mg/kg		6	
12.9.5	other protein products	100	mg/kg	Note 92	6	
13.6	food supplements	300	mg/kg		6	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	300	mg/kg		6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	300	mg/kg		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	300	mg/kg		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	300	mg/kg	Note 2	6	

IRON OXIDES

As appropriate, provide numerical use levels for uses reported as GMP

IRON OXIDES

Iron Oxide, Black INS: 172i Iron Oxide, Red INS: 172ii Iron Oxide, Yellow INS: 172iii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.3.2	Beverage whiteners		GMP		6	
01.4	Cream (plain) and the like		GMP		6	
01.5.2	Milk and cream powder analogues		GMP		6	
01.6.1	Unripened cheese		GMP		6	
01.6.3	Whey cheese		GMP	Note 3	6	
01.6.5	Cheese analogues		GMP		6	
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk		GMP		6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		6	
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	75	mg/kg		3	
04.2.2.6	Vegetable, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe veravera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5		GMP		6	
05.1.3	cocoa-based spreads, including fillings		GMP		6	
05.3	chewing gum	10000	mg/kg		6	
06.2	flours and starches (including soybean powder)	300	mg/kg		3	
08.1.2	fresh meat, poultry, and game, comminuted	1000	mg/kg	Note 94	6	
08.2	Processed meat, poultry, and game products in whole pieces or cuts		GMP	Note 16	6	
08.3.1.1	cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	1000	mg/kg	Note 78	6	
08.3.1.2	cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.3.1.3	fermented non-heat treated processed comminuted meat,		GMP	Note 16	6	

IRON OXIDES

Iron Oxide, Black INS: 172i Iron Oxide, Red INS: 172ii Iron Oxide, Yellow INS: 172iii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	poultry, and game products					
08.3.2	heat-treated processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.3.3	frozen processed comminuted meat, poultry, and game products		GMP	Note 16	6	
09.1.1	fresh fish		GMP	Note 50	6	
09.1.2	fresh mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.4.1	Cooked fish and fish products		GMP		6	
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms		GMP		6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly		GMP	Note 16	6	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine		GMP	Note 16	6	
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	50	mg/kg		3	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		6	
10.4	egg-based desserts (e.g., custard)		GMP		6	
12.4	Mustards		GMP		6	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP		6	
12.9.5	other protein products		GMP		6	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP		6	
13.4	dietetic formulae for slimming purposes and weight reduction		GMP		6	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP		6	
13.6	food supplements		GMP		6	
14.1.3.2	vegetable nectar		GMP		6	
14.1.3.4	concentrates for vegetable nectar		GMP		6	
14.2.2	cider and perry		GMP		6	
14.2.3.2	sparkling and semi-sparkling grape wines		GMP		6	
14.2.4	wines (other than grape)		GMP		6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol		GMP		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	

BRILLIANT BLUE FCF

Clarification of the use in category 16.0 in the food itself as compared to its presence from carry-over.

BRILLIANT BLUE FCF

Brilliant Blue FCF INS: 133

Function:

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.6.1	unripened cheese	200	mg/kg	Note 3	3	
01.6.3	Whey cheese	200	mg/kg	Note 3	3	
01.6.4	processed cheese	200	mg/kg		6	
01.6.5	Cheese analogues	200	mg/kg	Note 3	3	
02.1.3	Lard, tallow, fish oil, and other animal fats	200	mg/kg	Note 3	3	
04.1.1.2	surface-treated fresh fruit	500	mg/kg	Note 16	6	
04.1.2.4	canned or bottled (pasteurized) fruit	200	mg/kg		6	
04.1.2.5	jams, jellies and marmalades	500	mg/kg		6	

BRILLIANT BLUE FCF

Brilliant Blue FCF INS: 133

Function:

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		6	
04.1.2.7	candied fruit	200	mg/kg		6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	500	mg/kg		6	
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500	mg/kg	Note 16	6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		6	
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200	mg/kg		6	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	200	mg/kg		6	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	500	mg/kg		3	
05.1.3	cocoa-based spreads, including fillings	300	mg/kg		3	
05.1.3	cocoa-based spreads, including fillings	100	mg/kg		6	
05.1.4	cocoa and chocolate products	300	mg/kg		3	
05.1.4	cocoa and chocolate products	100	mg/kg		6	
05.1.5	imitation chocolate, chocolate substitute products	300	mg/kg		3	
05.1.5	imitation chocolate, chocolate substitute products	100	mg/kg		6	
07.1	bread and ordinary bakery wares	100	mg/kg		6	
07.2	fine bakery wares (sweet, salty, savoury) and mixes	200	mg/kg		6	
08.0	meat and meat products, including poultry and game	500	mg/kg	Note 16	6	
09.2.4.1	cooked fish and fish products	500	mg/kg		6	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms	250	mg/kg		6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 22	6	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	500	mg/kg		6	
12.2.2	seasonings and condiments	500	mg/kg		6	
12.4	Mustards	300	mg/kg		6	
12.5	soups and broths	300	mg/kg		6	
12.6	sauces and like products	500	mg/kg		6	
12.9.5	other protein products	100	mg/kg		6	
14.2.1	Beer and malt beverages	200	mg/kg		3	
16.0	composite foods - foods that could not be placed in categories 01 – 15	100	mg/kg	Note 2	6	

CARMINES

Clarification of the use levels reported, since they may be for either cochineal extract or carminic acid, each of which have different amounts of the coloring principle.

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.6.1	unripened cheese		GMP	Note 3	6	
01.6.2.2	rind of ripened cheese		GMP		6	
01.6.3	whey cheese		GMP	Note 3	6	
01.6.5	cheese analogues		GMP	Note 3	6	
02.2.1.3	Blends of butter and margarine	500	mg/kg		3	
02.2.2	Emulsions containing less than 80% fat	500	mg/kg		3	
02.3	fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	500	mg/kg		6	

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		6	
05.3	chewing gum	1020	mg/kg		6	
06.4.2	dried pastas and noodles and like products	100	mg/kg		3	
06.4.3	pre-cooked pastas and noodles and like products	100	mg/kg		3	
07.1	bread and ordinary bakery wares		GMP		6	
07.1.4	bread-type products, including bread stuffing and bread crumbs	500	mg/kg		3	
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	100	mg/kg	Note 85	3	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	6	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	100	mg/kg		3	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	150	mg/kg		3	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	1000	mg/kg		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	500	mg/kg		3	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200	mg/kg		6	

CAROTENES, VEGETABLE

Clarification as to whether the use levels in food categories 04.1.2.8, 04.1.2.11 and 16.0 are due to carry-over or direct addition to the food.

CAROTENES, VEGETABLE

Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.4	cream (plain) and the like	1000	mg/kg		3	
01.6.3	Whey cheese	1000	mg/kg		3	
02.2.1.2	Margarine and similar products	1000	mg/kg		3	
04.1.1.2	surface-treated fresh fruit		GMP	Note 16	6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	4	mg/kg		6	
04.1.2.11	fruit fillings for pastries	4	mg/kg		6	
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP	Note 16	6	
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200	mg/kg		3	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	1320	mg/kg		3	
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	200	mg/kg		3	
05.1.3	cocoa-based spreads, including fillings	1000	mg/kg		3	
05.1.4	cocoa and chocolate products	1000	mg/kg		3	
05.1.4	cocoa and chocolate products	500	mg/kg		6	
05.1.5	imitation chocolate, chocolate substitute products	1000	mg/kg		3	
05.1.5	imitation chocolate, chocolate substitute products	500	mg/kg		6	
06.4.2	dried pastas and noodles and like products	1000	mg/kg		3	
06.4.3	pre-cooked pastas and noodles and like products	1000	mg/kg		3	
08.1.1	Fresh meat, poultry and game, whole pieces or cuts	5000	mg/kg	Note 16	3	
08.1.2	fresh meat, poultry, and game, comminuted	20	mg/kg	Note 117	6	
09.1.1	fresh fish		GMP	Note 50	6	

CAROTENES, VEGETABLE

Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
09.1.2	fresh mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
09.2.4.1	Cooked fish and fish products	1000	mg/kg		3	
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	500	mg/kg		3	
12.10.3	Fermented soybean paste (e.g., miso)		GMP		6	
13.1.3	formulae for special medical purposes for infants	30	mg/kg	Note 84	3	
14.1.2.2	vegetable juice	2000	mg/kg		3	
14.1.2.4	concentrates for vegetable juice	2000	mg/kg		3	
14.1.3.2	vegetable nectar	2000	mg/kg		3	
14.1.3.4	concentrates for vegetable nectar	1000	mg/kg		3	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	400	mg/kg		3	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	25	mg/kg		6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	20000	mg/kg		3	
16.0	composite foods - foods that could not be placed in categories 01 – 15	1000	mg/kg		3	

CASTOR OIL

Castor Oil INS: 1503

Function: Anticaking Agent, Carrier Solvent, Glazing Agent, Release Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
05.1	cocoa products and chocolate products including imitations and chocolate substitutes		GMP		6	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	500	mg/kg		6	
05.3	chewing gum	2100	mg/kg		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP		6	
13.6	food supplements		GMP		6	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500	mg/kg		6	

CHLOROPHYLLS, COPPER COMPLEXES

Provide use levels “as copper.”

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, rinking yoghurt, whey-based drinks)	50	mg/kg		3	
01.6.1	Unripened cheese	50	mg/kg		3	
01.6.2.1	Ripened cheese, includes rind	15	mg/kg		6	
01.6.2.1	Ripened cheese, includes rind	50	mg/kg		3	
01.6.2.2	Rind of ripened cheese	75	mg/kg		3	
01.6.2.3	Cheese powder (for reconstitution; e.g., for cheese sauces)	50	mg/kg		3	
01.6.3	Whey cheese	50	mg/kg		3	
01.6.4	Processed cheese	50	mg/kg		3	
01.6.5	Cheese analogues	50	mg/kg		3	
01.6.6	Whey protein cheese	50	mg/kg		3	
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	200	mg/kg		6	
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	500	mg/kg		3	
02.0	Fats and oils, and fat emulsions		GMP		6	
02.4	Fat-based desserts excluding dairy-based dessert products of	500	mg/kg		3	

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	food category 01.7					
03.0	Edible ices, including sherbet and sorbet	200	mg/kg		6	
03.0	Edible ices, including sherbet and sorbet	500	mg/kg		3	
04.1.1.2	Surface-treated fresh fruit		GMP	Note 16	6	
04.1.2.1	Frozen fruit	100	mg/kg	Note 62	6	
04.1.2.2	Dried fruit	100	mg/kg	Note 62	6	
04.1.2.5	Jams, jellies, marmelades	200	mg/kg		6	
04.1.2.6	Fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	150	mg/kg		6	
04.1.2.7	Candied fruit	100	mg/kg	Note 62	6	
04.1.2.7	Candied fruit	250	mg/kg		3	
04.1.2.9	Fruit-based desserts, including fruit-flavoured water-based desserts	150	mg/kg	Note 62	6	
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP	Note 16	6	
04.2.2.1	Frozen vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	100	mg/kg	Note 62	6	
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	100	mg/kg	Notes 62 & 89	6	
04.2.2.3	Vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		6	
04.2.2.4	Canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	100	mg/kg	Note 62	6	
05.1.2	cocoa mixes (syrups)	6.4	mg/kg	Note 62	3	
05.1.3	cocoa-based spreads, including fillings	6.4	mg/kg	Note 62	3	
05.1.4	Cocoa and chocolate products	700	mg/kg		6	
05.1.5	Imitation chocolate, chocolate substitute products	700	mg/kg		6	
05.2.1	Hard candy	700	mg/kg		6	
05.2.2	Soft candy	100	mg/kg		6	
05.2.3	Nougats and marzipans	100	mg/kg		6	
05.3	Chewing gum	700	mg/kg		6	
05.4	Decorations (e.g., for fine bakery wares), toppings (non-fruit), and sweet sauces	100	mg/kg		3	
06.3	Breakfast cereals, including rolled oats	100	mg/kg		3	
06.4.2	Dried pastas and noodles and like products		GMP		6	
06.4.3	Pre-cooked pastas and noodles and like products		GMP		6	
06.5	Cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	6.4	mg/kg	Note 62	6	
06.5	Cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	75	mg/kg		3	
07.1.4	Bread-type products, including bread stuffing and bread crumbs	6.4	mg/kg	Note 62	3	
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	75	mg/kg		3	
07.2.2	Other fine bakery products (e.g., doughnuts, sweet rolls, scones, and muffins)		GMP		6	
07.2.3	Mixes for fine bakery wares (e.g., cakes, pancakes)		GMP		6	
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and chinoderms	40	mg/kg		3	
09.2.4.1	Cooked fish and fish products	30	mg/kg	Note 62	6	
09.2.4.3	Fried fish and fish products, including mollusks, crustaceans, and echinoderms	40	mg/kg	Note 62	6	
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	40	mg/kg	Note 62	6	
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg		3	
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	40	mg/kg		3	
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	40	mg/kg		3	
09.3.3	Salmon substitutes, caviar, and other fish roe products	200	mg/kg		3	
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding	75	mg/kg		3	

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	products of food categories 09.3.1 - 09.3.3					
09.4	Fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		6	
10.4	Egg-based desserts (e.g., custard)	300	mg/kg	Note 2	3	
12.2.2	Seasonings and condiments	100	mg/kg		3	
12.4	Mustards		GMP		6	
12.5.1	Ready-to-eat soups and broths, including canned, bottled, and frozen	400	mg/kg		6	
12.5.2	Mixes for soups and broths	30	mg/kg	Note 127	6	
12.5.2	Mixes for soups and broths	100	mg/kg		3	
12.6		100	mg/kg		3	
12.9.5	Other protein products		GMP		6	
13.1.3	Formulae for special medical purposes for infants	20	mg/kg	Note 84	3	
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP		6	
13.4	Dietetic formulae for slimming purposes and weight reduction		GMP		6	
13.5	Dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP		6	
13.6	Food supplements		GMP		6	
14.1.3.2	Vegetable nectar		GMP		6	
14.1.3.4	Concentrates for vegetable nectar		GMP		6	
14.1.4	Water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	300	mg/kg		6	
14.2.2	Cider and perry		GMP		6	
14.2.4	Wines (other than grape)		GMP		6	
14.2.6	Distilled spirituous beverages containing more than 15% alcohol		GMP		6	
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	350	mg/kg		3	
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g., dried fruit)	100	mg/kg		3	

GRAPE SKIN EXTRACT

Provide any information on an appropriate reporting basis.

GRAPE SKIN EXTRACT

Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	1500	mg/kg		3	
01.3.2	beverage whiteners	1500	mg/kg		3	
01.4	cream (plain) and the like	1500	mg/kg		3	
01.5.2	milk and cream powder analogues	1500	mg/kg		3	
01.6.1	unripened cheese	1000	mg/kg		3	
01.6.2.1	ripened cheese, includes rind	125	mg/kg		6	
01.6.2.2	rind of ripened cheese	1000	mg/kg		3	
01.6.3	whey cheese	1000	mg/kg		3	
01.6.4.2	flavoured processed cheese, including containing fruit, vegetables, meat, etc.	1000	mg/kg		3	
01.6.5	cheese analogues	1000	mg/kg		3	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	100	mg/kg		6	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	1500	mg/kg		3	
03.0	edible ices, including sherbet and sorbet	1000	mg/kg		3	
03.0	edible ices, including sherbet and sorbet	100	mg/kg		6	
04.1.1.2	surface-treated fresh fruit		GMP	Note 16	6	
04.1.2.3	fruit in vinegar, oil, or brine	1500	mg/kg		3	
04.1.2.4	canned or bottled (pasteurized) fruit	1500	mg/kg		3	
04.1.2.5	jams, jellies and marmelades	1500	mg/kg		3	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		6	
04.1.2.7	candied fruit	1500	mg/kg		3	

GRAPE SKIN EXTRACT

Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	1500	mg/kg		3	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	1500	mg/kg		3	
04.1.2.10	fermented fruit products	1500	mg/kg		3	
04.1.2.11	fruit fillings for pastries	1500	mg/kg		3	
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP	Note 16	6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		6	
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1500	mg/kg		3	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1500	mg/kg		3	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	1500	mg/kg		3	
05.1.5	imitation chocolate, chocolate substitute products	500	mg/kg		3	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	10000	mg/kg		3	
05.3	chewing gum	10000	mg/kg		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	10000	mg/kg		3	
06.3	breakfast cereals, including rolled oats	200	mg/kg		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	1500	mg/kg		3	
07.0	bakery wares	1500	mg/kg		3	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts	5000	mg/kg	Note 16	3	
08.1.2	fresh meat, poultry, and game, comminuted	1000	mg/kg	Note 94	6	
08.2	processed meat, poultry, and game products in whole pieces or cuts	5000	mg/kg		3	
08.3.1.1	cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	5000	mg/kg		3	
08.3.1.2	cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	5000	mg/kg	Note 16	3	
08.3.1.3	fermented non-heat treated processed comminuted meat, poultry, and game products	5000	mg/kg	Note 16	3	
08.3.2	heat-treated processed comminuted meat, poultry, and game products	5000	mg/kg	Note 16	3	
08.3.3	frozen processed comminuted meat, poultry, and game products	5000	mg/kg	Note 16	3	
08.4	edible casings (e.g., sausage casings)	5000	mg/kg		3	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		3	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.4.1	cooked fish and fish products	500	mg/kg		3	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms	1000	mg/kg		3	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg	Note 16	3	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg	Note 22	3	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500	mg/kg	Note 16	3	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	1500	mg/kg	Note 16	3	
09.3.3	salmon substitutes, caviar, and other fish roe products	1500	mg/kg		3	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	1500	mg/kg	Note 16	3	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	1500	mg/kg		3	
10.1	fresh eggs	1500	mg/kg	Note 4	3	

GRAPE SKIN EXTRACT

Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
10.4	egg-based desserts (e.g., custard)	500	mg/kg		3	
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	1500	mg/kg		3	
12.4	mustards	500	mg/kg		3	
12.5	soups and broths	1500	mg/kg		3	
12.6.1	emulsified sauces (e.g., mayonnaise, salad dressing)	1500	mg/kg		3	
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	500	mg/kg		3	
12.6.3	mixes for sauces and gravies	500	mg/kg		3	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1500	mg/kg		3	
12.9.5	other protein products	500	mg/kg		3	
13.1.3	formulae for special medical purposes for infants	20	mg/kg	Note 84	3	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1500	mg/kg		3	
13.4	dietetic formulae for slimming purposes and weight reduction	1500	mg/kg		3	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	1500	mg/kg		3	
13.6	food supplements	1500	mg/kg		3	
14.1.3.2	vegetable nectar	1500	mg/kg		3	
14.1.3.4	concentrates for vegetable nectar	1500	mg/kg		3	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	500	mg/kg		6	
14.2.1	beer and malt beverages	1500	mg/kg		3	
14.2.2	cider and perry	1500	mg/kg		3	
14.2.3.2	sparkling and semi-sparkling grape wines	1500	mg/kg		3	
14.2.3.3	fortified grape wine, grape liquor wine, and sweet grape wine	1500	mg/kg		3	
14.2.4	wines (other than grape)	1500	mg/kg		3	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	1500	mg/kg		3	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	1500	mg/kg		3	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	10000	mg/kg		3	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	10000	mg/kg		3	
16.0	composite foods - foods that could not be placed in categories 01 - 15	1500	mg/kg		3	
16.0	composite foods - foods that could not be placed in categories 01 - 15	10	mg/kg		6	

POLYSORBATES

Polyoxyethylene (20) Sorbitan Monolaurate INS: 432
Polyoxyethylene (20) Sorbitan INS: 433
Polyoxyethylene (20) Sorbitan Monopalmitate INS: 434
Polyoxyethylene (20) Sorbitan Monostearate INS: 435
Polyoxyethylene (20) Sorbitan Tristearate INS: 436

Function: Antifoaming Agent, Adjuvant, Emulsifier, Foaming Agent, Flour Treatment Agent, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	5000	mg/kg		6	
01.3.2	beverage whiteners	5000	mg/kg		6	
01.4	Cream (plain) and the like	1000	mg/kg		3	
01.4.2	sterilized and UHT creams, whipping and whipped creams, and reduced fat creams (plain)	3000	mg/kg		6	
01.5.2	milk and cream powder analogues	4000	mg/kg		6	
01.6.1	unripened cheese	80	mg/kg	Note 38	6	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	5000	mg/kg		6	
02.0	fats and oils, and fat emulsions	10000	mg/kg		6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	1000	mg/kg		3	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	3000	mg/kg		6	

POLYSORBATES

Polyoxyethylene (20) Sorbitan Monolaurate INS: 432
Polyoxyethylene (20) Sorbitan INS: 433
Polyoxyethylene (20) Sorbitan Monopalmitate INS: 434
Polyoxyethylene (20) Sorbitan Monostearate INS: 435
Polyoxyethylene (20) Sorbitan Tristearate INS: 436

Function: Antifoaming Agent, Adjuvant, Emulsifier, Foaming Agent, Flour Treatment Agent, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.11	fruit fillings for pastries	5000	mg/kg			6
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg			6
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	30	mg/kg	Notes 7 & 100		6
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	3000	mg/kg			6
05.1.2	cocoa mixes (syrups)	500	mg/kg			6
05.1.3	cocoa-based spreads, including fillings	4600	mg/kg			6
05.1.4	cocoa and chocolate products	10000	mg/kg			6
05.1.5	imitation chocolate, chocolate substitute products	5000	mg/kg			6
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	10000	mg/kg			3
05.2.1	hard candy	10000	mg/kg			6
05.2.2	soft candy	1000	mg/kg			6
05.2.3	nougats and marzipans	1000	mg/kg			6
05.3	chewing gum	20000	mg/kg			6
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	7000	mg/kg			6
06.4.2	dried pastas and noodles and like products	5000	mg/kg			3
06.4.3	pre-cooked pastas and noodles and like products	5000	mg/kg			3
06.6	batters (e.g., for breading or batters for fish or poultry)	5000	mg/kg	Note 2		6
07.1.1	breads and rolls	3000	mg/kg			6
07.1.2	crackers, excluding sweet crackers	5000	mg/kg	Note 11		6
07.1.3	other ordinary bakery products (e.g., bagels, pita, English muffins)	10000	mg/kg	Note 11		6
07.1.4	bread-type products, including bread stuffing and bread crumbs	5000	mg/kg	Note 11		6
07.1.5	steamed breads and buns	5000	mg/kg	Note 11		6
07.1.6	mixes for breads and ordinary bakery wares	5000	mg/kg	Note 11		6
07.2	fine bakery wares (sweet, salty, savoury) and mixes	5000	mg/kg			6
08.2	processed meat, poultry, and game products in whole pieces or cuts	10000	mg/kg			6
08.3	processed comminuted meat, poultry, and game products	10000	mg/kg			6
08.4	edible casings (e.g., sausage casings)	1500	mg/kg			6
10.4	egg-based desserts (e.g., custard)	5000	mg/kg			6
12.1.1	salt	10	mg/kg			6
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	4600	mg/kg			3
12.2.1	herbs and spices	2000	mg/kg			6
12.2.2	seasonings and condiments	4600	mg/kg			6
12.6.1	emulsified sauces (e.g., mayonnaise, salad dressing)	5000	mg/kg			6
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	4600	mg/kg			6
12.6.3	mixes for sauces and gravies	5000	mg/kg			6
12.6.4	clear sauces (e.g., fish sauce)	4600	mg/kg			6
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	2000	mg/kg			6
12.9.5	other protein products	4000	mg/kg	Note 15		6
13.6	food supplements	790	mg/kg	Note 101		6
14.1.4	water-based flavoured drinks, including "sport," "energy" or "electrolyte" drinks and particulated drinks	1000	mg/kg			3
14.1.4.1	carbonated water-based flavoured drinks	500	mg/kg			6
14.1.4.2	non-carbonated water-based flavoured drinks, including punches and ades	500	mg/kg			6
14.1.4.3	concentrates (liquid or solid) for water-based flavoured drinks	45000	mg/kg	Note 102		6
14.2.6	distilled spirituous beverages containing more than 15% alcohol	120	mg/kg			6

POLYSORBATES

Polyoxyethylene (20) Sorbitan Monolaurate INS: 432
Polyoxyethylene (20) Sorbitan INS: 433
Polyoxyethylene (20) Sorbitan Monopalmitate INS: 434
Polyoxyethylene (20) Sorbitan Monostearate INS: 435
Polyoxyethylene (20) Sorbitan Tristearate INS: 436

Function: Antifoaming Agent, Adjuvant, Emulsifier, Foaming Agent, Flour Treatment Agent, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	120	mg/kg		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	2000	mg/kg		6	

RIBOFLAVINS

Riboflavin 5'-Phosphate, Sodium INS: 101i
Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.4	cream (plain) and the like	300	mg/kg		3	
01.6.3	whey cheese	300	mg/kg	Note 3	3	
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	300	mg/kg		3	
04.1.2.3	fruit in vinegar, oil, or brine	300	mg/kg		3	
04.2.2.2	Dried vegetables, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10	mg/kg		6	
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	300	mg/kg		3	
04.2.2.6	Vegetable, (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe veravera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	300	mg/kg		3	
05.1.2	Cocoa mixes (syrups)	1000	mg/kg		3	
05.1.3	Cocoa-based spreads, incl. fillings	1000	mg/kg		3	
05.1.4	Cocoa and chocolate products	1000	mg/kg		3	
06.4.2	Dried pastas and noodles and like products	300	mg/kg		3	
07.1	Breads and rolls	300	mg/kg		3	
08.0	meat and meat products, including poultry and game	1000	mg/kg		6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
09.2.4.1		300	mg/kg		3	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		6	
14.1.3.2	Vegetable nectar	300	mg/kg		3	
14.1.3.4	Concentrates for vegetable nectar	300	mg/kg		3	
14.2.6	distilled spirituous beverages containing more than 15% alcohol		GMP		6	
16.0	Composite foods - foods that could not be placed in categories 01 - 15.	300	mg/kg		3	

Notes to the Comments for the General Standard for Food Additives (37th CCFAC)

Note 1: As adipic acid
Note 2: On dry ingredient, dry weight, dry mix or concentrate basis.
Note 3: Surface treatment.
Note 4: For decoration, stamping, marking or branding the product.
Note 5: Used in raw materials for manufacture of the finished food.
Note 6: As aluminium.
Note 7: Use level not in finished food.
Note 8: As bixin.
Note 9: As total bixin or norbixin.
Note 10: As ascorbyl stearate.
Note 11: Flour basis.
Note 12: Carryover from flavouring substances.

Note 13: As benzoic acid.
Note 14: Served at greater than 5-fold dilution.
Note 15: Fat or oil basis.
Note 16: For use in glaze, coatings or decorations for fruit, vegetables, meat or fish.
Note 17: As cyclamic acid.
Note 18: Added level; residue not detected in ready-to-eat food.
Note 19: Used in cocoa fat; use level on ready-to-eat basis.
Note 20: On total amount of stabilizers, thickeners and/or gums.
Note 21: As anhydrous calcium disodium EDTA.
Note 22: For use in smoked fish products only.
Note 23: As iron.
Note 24: As anhydrous sodium ferrocyanide.
Note 25: As formic acid.
Note 26: For use in baking powder only.
Note 27: As p-hydroxybenzoic acid.
Note 28: ADI conversion: if a typical preparation contains 0.025 µg/U, then the ADI of 33,000 U/kg bw becomes: [(33000 U/kg bw) x (0.025 µg/U) x (1 mg/1000 µg)] = 0.825 mg/kg bw
Note 29: Reporting basis not specified.
Note 30: As residual NO3 ion.
Note 31: Of the mash used.
Note 32: As residual NO2 ion.
Note 33: As phosphorus.
Note 34: Anhydrous basis.
Note 35: For use in cloudy juices only.
Note 36: Residual level.
Note 37: As weight of nonfat milk solids.
Note 38: Level in creaming mixture.
Note 39: Only when product contains butter or other fats and oils.
Note 40: INS 451i only, to enhance the effectiveness of benzoates and sorbates.
Note 41: Use in breading or batter coatings only.
Note 42: As sorbic acid
Note 43: As tin.
Note 44: As residual SO2.
Note 45: As tartaric acid.
Note 46: As thiodipropionic acid.
Note 47: On egg yolk weight, dry basis.
Note 48: For olives only.
Note 49: For use on citrus fruits only.
Note 50: For use in fish roe only.
Note 51: For use in herbs only.
Note 52: For use in butter only.
Note 53: For use in coatings only.
Note 54: For use in cocktail cherries and candied cherries only
Note 55: Added level.
Note 56: Provided starch is not present.
Note 57: GMP is 1 part benzoyl peroxide and not more than 6 parts of the subject additive by
Note 58: As calcium.
Note 59: Use as packing gas.
Note 60: If used as a carbonating agent, the CO2 in the finished wine shall not exceed 39.2 mg/kg.
Note 61: For use in minced fish only.
Note 62: As copper.
Note 63: On amount of dairy ingredients.
Note 64: Level added to dry beans; 200 mg/kg in ready-to-eat food, anhydrous basis.
Note 65: Carryover from nutrient preparations.
Note 66: As formaldehyde. For use in provolone cheese only.
Note 67: Except for use in liquid egg whites at 8800 mg/kg as phosphorus, and in liquid whole eggs at 14,700 mg/kg as phosphorus.
Note 68: For use in natural mineral waters only.
Note 69: Use as carbonating agent.
Note 70: As the acid.
Note 71: Calcium, potassium and sodium salts only.
Note 72: Ready-to-eat basis.
Note 73: Except whole fish.
Note 74: Use level for deep orange coloured cheeses; 25 mg/kg for orange coloured cheeses; 10 mg/kg for normal coloured cheeses.
Note 75: Use in milk powder for vending machines only.
Note 76: Use in potatoes only.
Note 77: As mono-isopropyl citrate.
Note 78: For use in tocino (fresh, cured sausage) only.

Note 79: For use on nuts only.
Note 80: Equivalent to 2 mg/dm2 surface application to a maximum depth of 5 mm.
Note 81: Equivalent to 1 mg/dm2 surface application to a maximum depth of 5 mm.
Note 82: For use in shrimp; 6000 mg/kg for Crangon crangon and Crangon vulgaris.
Note 83: For use in sauce only.
Note 84: For infants over 1 year of age only.
Note 85: Excluding use in surimi and fish roe products at 500 mg/kg.
Note 86: Use in whipped dessert toppings other than cream only.
Note 87: Treatment level.
Note 88: Carryover from the ingredient.
Note 89: Except for use in dried tangle (KONBU) at 150 mg/kg.
Note 90: For use in milk-sucrose mixtures used in the finished product.
Note 91: Benzoates and sorbates, singly or in combination.
Note 92: On the weight of the protein before re-hydration.
Note 93: Except natural wine produced from Vitis Vinifera grapes.
Note 94: For use in loganiza (fresh, uncured sausage) only.
Note 95: For use in surimi and fish roe products only.
Note 96: Carryover from use in fats.
Note 97: In cocoa and chocolate products.
Note 98: For dust control.
Note 99: For use in fish fillets and minced fish only.
Note 100: For use as a dispersing agent in dill oil used in the final food.
Note 101: Level based on the maximum recommended daily dose of 475 mg/dose, assuming one 600 mg tablet is consumed per day.
Note 102: For use as a surfactant or wetting agent for colours in the food.
Note 103: Except for use in special white wines at 400 mg/kg.
Note 104: Maximum 5000 mg/kg residue in bread and yeast-leavened bakery products.
Note 105: Except for use in dried gourd strips (KAMPYO) at 5000 mg/kg.
Note 106: Except for use in Dijon mustard at 500 mg/kg.
Note 107: Except for use in food-grade dendridic salt at 29,000 mg/kg as anhydrous sodium ferrocyanide.
Note 108: For use on coffee beans only.
Note 109: Use level reported as 25 lbs/1000 gal x (0.45 kg/lb) x (1 gal/3.75 L) x (1 L/kg) x (106mg/kg) = 3000 mg/kg
Note 110: For use in frozen French fried potatoes only.
Note 111: For use in dipping solution only.
Note 112: For use in grated cheese only.
Note 113: Excluding butter.
Note 114: Excluding cocoa powder.
Note 115: For use in pineapple juice only.
Note 116: For use in doughs only.
Note 117: Except for use in loganiza (fresh, uncured sausage) at 1000 mg/kg.
Note 118: Except for use in tocino (fresh, cured sausage) at 1000 mg/kg.
Note 119: As carrier for flavours.
Note 120: Except for use in caviar at 2500 mg/kg.
Note 121: Excluding fermented fish products at 1000 mg/kg.
Note 122: Subject to national legislation of the importing country.
Note 123: 1000 mg/kg for beverages with pH greater than 3.5.
Note 124: Only for products containing less than 7% ethanol.
Note 125: For use as a release agent for baking pans in a mixture with vegetable oil.
Note 126: For releasing dough in dividing or baking only.
Note 127: As served to the consumer.
Note 128: INS 334 only.
Note 129: For use as an acidity regulator in grape juice.
Note 130: Singly or in combination: Butylated Hyroxyanisole (BHA, INS 320), Butylated Hydoxytoluene (BHT, INS 321), Tertiary Butylated Hydroxyquinone (TBHQ, INS 319) and Propyl Gallate (INS 310)
Note 131: On a dried weight basis of the high intensity sweetener.
Note 132: Excluding dried glucose syrup used in the manufacture of sugar confectionery at 150 mg/kg and glucose syrup used in the manufacture of sugar confectionery at 400 mg/kg.

Appendix X

DRAFT (AT STEP 8) AND PROPOSED DRAFT (AT STEP 5/8) FOOD ADDITIVE PROVISIONS FOR INCLUSION IN THE CODEX GENERAL STANDARD FOR FOOD ADDITIVES

BENZOYL PEROXIDE

Benzoyl Peroxide INS 928

Function: Bleaching Agent (Not for Flour), Flour Treatment Agent

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
01.8.2	Dried whey and whey products, excluding whey cheeses	100	mg/kg		8	

BENZOATES

Benzoic Acid INS: 210 Sodium Benzoate INS: 211

Potassium Benzoate INS: 212 Calcium Benzoate INS: 213

Function: Preservative

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
05.3	Chewing gum	1500	mg/kg	Note 13	8	
08.2.1.2	Cured (including salted) and dried non-heat treated processed meat, poultry, and game products in whole pieces or cuts	1000	mg/kg	Notes 3 & 13	8	
08.3.1.2	Cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game	1000	mg/kg	Notes 3 & 13	8	

GLYCEROL ESTER OF WOOD ROSIN

Glycerol Ester of Wood Rosin INS: 445

Function: Adjuvant, Bulking Agent, Emulsifier, Stabilizer, Thickener

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
04.1.1.2	Surface-treated fresh fruit	110	mg/kg		5/8	
04.2.1.2	Surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	110	mg/kg		5/8	

ISOPROPYL CITRATES

Isopropyl Citrates INS: 384

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
02.1.2	Vegetable oils and fats	200	mg/kg		8	

EDTAs

Calcium Disodium Ethylene Diamine Tetra Acetate INS: 385

Disodium Ethylene Diamine Tetra Acetate INS: 386

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
09.2.4.1	Cooked fish and fish products	50	mg/kg	Note 21	8	
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	1000	mg/kg	Notes 21 and 131	8	
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	25	mg/kg	Note 21	8	

ASCORBYL ESTERS

Ascorbyl Palmitate INS: 304

Ascorbyl Stearate INS: 305

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
12.6.2	Non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	500	mg/kg	Note 10	8	
13.1	Infant formulae, follow-up formulae, and formulae for special medical purposes for infants	10	mg/kg	Notes 10 & 15	8	
13.4	Dietetic formulae for slimming purposes and weight reduction	500	mg/kg	Note 10	8	

GALLATE, PROPYL

Gallate, Propyl INS: 310

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200	mg/kg	Notes 15 & 130	8	
15.2	Processed nuts, including coated nuts and nut mixtures(with e.g., dried fruit)	200	mg/kg	Notes 15 & 130	8	

BHA

Butylated Hydroxyanisole INS: 320

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.2.1.2	Margarine and similar products	200	mg/kg	Notes 15 & 130	8	
02.2.2	Emulsions containing less than 80% fat	200	mg/kg	Notes 15 & 130	8	
02.3	Fat emulsions other than 02.2, including mixed and/or flavoured products based on fat emulsions	200	mg/kg	Notes 15 & 130	8	
02.4	Fat-based desserts excl. dairy-based dessert prods. of 01.7	200	mg/kg	Notes 15 &	8	

BHA

Butylated Hydroxyanisole INS: 320

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
				130		
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200	mg/kg	Notes 15, 76 & 130	8	
06.3	breakfast cereals, including rolled oats	200	mg/kg	Notes 15 & 130	8	
08.2	processed meat, poultry, and game products in whole pieces or cuts	200	mg/kg	Notes 15 & 130	8	
08.3	processed comminuted meat, poultry, and game products	200	mg/kg	Notes 15 & 130	8	
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	200	mg/kg	Notes 15 & 130	8	
12.6	sauces and like products	200	mg/kg	Notes 15 & 130	8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200	mg/kg	Notes 15 & 130	8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	200	mg/kg	Notes 15 & 130	8	

BHT

Butylated Hydroxytoluene INS: 321

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.2.2	Emulsions containing less than 80% fat	200	mg/kg	Notes 15 & 130	8	
02.3	Fat emulsions other than 02.2, including mixed and/or flavoured products based on fat emulsions	200	mg/kg	Notes 15 & 130	8	
02.4	Fat-based desserts excl. dairy-based dessert prods. of 01.7	200	mg/kg	Notes 15 & 130	8	
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	200	mg/kg	Notes 15, 76 & 130	8	

TBHQ

Tertiary Butylhydroquinone INS: 319

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.1	Fats and oils essentially free from water	200	mg/kg	Notes 15 & 130	8	
02.2.1.2	Margarine and similar products	200	mg/kg	Notes 15 & 130	8	
02.2.1.3	Blends of butter and margarine	200	mg/kg	Notes 15 &	8	

TBHQ

Tertiary Butylhydroquinone INS: 319

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
				130		
02.2.2	Emulsions containing less than 80% fat	200	mg/kg	Notes 15 & 130	8	
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	200	mg/kg	Notes 15 & 130	8	
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	200	mg/kg	Notes 15 & 130	8	
12.2	herbs, spices, seasonings, and condiments (e.g., seasoning for instant noodles)	200	mg/kg	Notes 15 & 130	8	
12.5.2	Mixes for soups and broths	200	mg/kg	Notes 15 & 130	8	
12.6	sauces and like products	200	mg/kg	Notes 15 & 130	8	
15.0	ready-to-eat savouries	200	mg/kg	Notes 15 & 130	8	

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	5000	mg/kg		5/8	
01.2.1.2	fermented milks (plain), heat-treated after fermentation	5000	mg/kg		5/8	
01.2.2	renneted milk (plain)	5000	mg/kg		5/8	
01.3.2	beverage whiteners	5000	mg/kg		8	
01.5.2	milk and cream powder analogues	10000	mg/kg		5/8	
01.6.2.1	ripened cheese, includes rind	10000	mg/kg		5/8	
01.6.4	processed cheese	10000	mg/kg		5/8	
01.6.5	cheese analogues	10000	mg/kg		5/8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	10000	mg/kg		8	
02.2.1.2	Margarine and similar products	10000	mg/kg		8	
02.2.1.3	Blends of butter and margarine	10000	mg/kg		8	
02.2.2	Emulsions containing less than 80% fat	10000	mg/kg		8	
02.3	fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	10000	mg/kg		8	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	5000	mg/kg		8	
04.1.2.2	dried fruit	10000	mg/kg		5/8	
04.1.2.3	fruit in vinegar, oil, or brine	1000	mg/kg		5/8	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	5000	mg/kg		5/8	
04.1.2.7	candied fruit	1000	mg/kg		5/8	

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	2500	mg/kg		5/8	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	2500	mg/kg		5/8	
04.1.2.10	fermented fruit products	2500	mg/kg		5/8	
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	10000	mg/kg		5/8	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	2500	mg/kg		5/8	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	2500	mg/kg		5/8	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	2500	mg/kg		5/8	
04.2.2.8	cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	2500	mg/kg		5/8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	10000	mg/kg		8	
05.3	chewing gum	50000	mg/kg		8	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	10000	mg/kg		8	
06.4.3	pre-cooked pastas and noodles and like products	10000	mg/kg		8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	5000	mg/kg		8	
06.6	batters (e.g., for breading or batters for fish or poultry)	5000	mg/kg		5/8	
10.2.3	dried and/or heat coagulated egg products	5000	mg/kg		5/8	
10.4	egg-based desserts (e.g., custard)	5000	mg/kg		5/8	
12.4	mustards	10000	mg/kg		8	
12.5	soups and broths	5000	mg/kg		5/8	
12.6	sauces and like products	10000	mg/kg		8	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	5000	mg/kg		5/8	
12.9.5	other protein products	10000	mg/kg		5/8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	5000	mg/kg		5/8	
13.4	dietetic formulae for slimming purposes and weight reduction	5000	mg/kg		5/8	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	5000	mg/kg		5/8	
13.6	food supplements	5000	mg/kg		5/8	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	5000	mg/kg		8	
14.2.2	cider and perry	5000	mg/kg		5/8	

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.2.4	wines (other than grape)	5000	mg/kg		5/8	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	5000	mg/kg		5/8	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	10000	mg/kg		5/8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	20000	mg/kg		5/8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	10000	mg/kg		5/8	

SULPHITES

Sulphur Dioxide	INS: 220	Sodium Sulphite	INS: 221
Sodium Hydrogen Sulphite	INS: 222	Sodium Metabisulphite	INS: 223
Potassium Metabisuphite	INS: 224	Potassium Sulphite	INS: 225
Calcium Hydrogen Sulphite	INS: 227	Potassium Bisulphite	INS: 228
Sodium Thiosulphate	INS: 539		

Function: Acidity Regulator, Adjuvant, Antioxidant, Bleaching Agent (Not for Flour), Flour Treatment Agent, Firming Agent, Preservative, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
11.1.1	white sugar, dextrose anhydrous, dextrose monohydrate, fructose	15	mg/kg	Note 44	8	
11.1.2	powdered sugar, powdered dextrose	15	mg/kg	Note 44	8	
11.1.5	plantation or mill white sugar	70	mg/kg	Note 44	8	
14.1.2.1	fruit juice	50	mg/kg	Notes 44 & 122	8	
14.1.2.3	concentrates for fruit juice	50	mg/kg	Notes 44, 122 & 127	8	
14.1.3.1	fruit nectar	50	mg/kg	Notes 44 & 122	8	
14.1.3.3	concentrates for fruit nectar	50	mg/kg	Notes 44, 122 & 127	8	

CANTHAXANTHIN

Canthaxanthin INS: 161g

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
10.1	fresh eggs		GMP	Note 4	8	

ERYTHROSINE

Erythrosine INS: 127

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.7	candied fruit	200	mg/kg	Note 54	8	

IRON OXIDES

Iron Oxide, Black INS: 172i Iron Oxide, Red INS: 172ii Iron Oxide, Yellow INS: 172iii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	20	mg/kg		5/8	
01.6.2.2	rind of ripened cheese	100	mg/kg		5/8	
01.6.4	processed cheese	50	mg/kg		5/8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	100	mg/kg		5/8	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	350	mg/kg		5/8	
03.0	edible ices, including sherbet and sorbet	300	mg/kg		5/8	
04.1.1.2	surface-treated fresh fruit	1000	mg/kg	Note 16	5/8	
04.1.2.4	canned or bottled (pasteurized) fruit	300	mg/kg		5/8	
04.1.2.5	jams, jellies and marmelades	200	mg/kg		5/8	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		8	
04.1.2.7	candied fruit	250	mg/kg			
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	200	mg/kg		5/8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	200	mg/kg		5/8	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	100	mg/kg		5/8	
06.3	breakfast cereals, including rolled oats	75	mg/kg		5/8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	75	mg/kg		5/8	
07.2	fine bakery wares (sweet, salty, savoury) and mixes	100	mg/kg		5/8	
08.4	edible casings (e.g., sausage casings)	1000	mg/kg	Note 72	8	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	250	mg/kg	Note 22	8	
09.3.3	salmon substitutes, caviar, and other fish roe products	100	mg/kg		5/8	
10.1	fresh eggs		GMP	Note 4	5/8	
12.2.2	seasonings and condiments	1000	mg/kg		5/8	
12.5	soups and broths	100	mg/kg		5/8	
12.6	sauces and like products	75	mg/kg		5/8	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	100	mg/kg		8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	500	mg/kg		5/8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	400	mg/kg		5/8	

BRILLIANT BLUE FCF

Brilliant Blue FCF INS: 133

Function:

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	150	mg/kg		8	
01.6.2.2	rind of ripened cheese	100	mg/kg		8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	150	mg/kg		8	
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions –	100	mg/kg		8	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	150	mg/kg		8	
03.0	edible ices, including sherbet and sorbet	150	mg/kg		8	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	150	mg/kg		8	
04.1.2.11	fruit fillings for pastries	250	mg/kg		8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	300	mg/kg		8	
05.3	chewing gum	300	mg/kg		8	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	500	mg/kg		8	
06.3	breakfast cereals, including rolled oats	200	mg/kg		8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	150	mg/kg		8	
09.1.1	fresh fish	300	mg/kg	Note 50	8	
09.1.2	fresh mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 95	8	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500	mg/kg	Note 16	8	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	500	mg/kg	Note 16	8	
09.3.3	salmon substitutes, caviar, and other fish roe products	500	mg/kg		8	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		8	
10.1	fresh eggs		GMP	Note 4	8	
10.4	egg-based desserts (e.g., custard)	150	mg/kg		8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50	mg/kg		8	
13.4	dietetic formulae for slimming purposes and weight reduction	50	mg/kg		8	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300	mg/kg		8	
13.6	food supplements	300	mg/kg		8	
14.1.4	water-based flavoured drinks, including "sport," "energy," or	100	mg/kg		8	

BRILLIANT BLUE FCF

Brilliant Blue FCF INS: 133

Function:

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	"electrolyte" drinks and particulated drinks					
14.2.2	cider and perry	200	mg/kg		8	
14.2.4	wines (other than grape)	200	mg/kg		8	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	200	mg/kg		8	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	200	mg/kg		8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200	mg/kg		8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	100	mg/kg		8	

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	150	mg/kg		8	
01.6.2.1	ripened cheese, includes rind	125	mg/kg		8	
01.6.4.2	flavoured processed cheese, including containing fruit, vegetables, meat, etc.	100	mg/kg		8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	150	mg/kg		8	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	150	mg/kg		8	
03.0	edible ices, including sherbet and sorbet	150	mg/kg		8	
04.1.1.2	surface-treated fresh fruit	500	mg/kg	Note 16	8	
04.1.2.4	canned or bottled (pasteurized) fruit	200	mg/kg		8	
04.1.2.5	jams, jellies and marmelades	200	mg/kg		8	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		8	
04.1.2.7	candied fruit	200	mg/kg		8	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	500	mg/kg		8	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	150	mg/kg		8	
04.1.2.11	fruit fillings for pastries	300	mg/kg		8	
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	500	mg/kg	Note 16	8	
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	100	mg/kg		8	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and	200	mg/kg		8	

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5					
05.1.2	Cocoa mixes (syrups)	300	mg/kg		8	
05.1.5	Imitation chocolate, chocolate substitute products	300	mg/kg		8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	300	mg/kg		8	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	500	mg/kg		8	
06.3	breakfast cereals, including rolled oats	200	mg/kg		8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	150	mg/kg		8	
06.6	batters (e.g., for breading or batters for fish or poultry)	500	mg/kg		5/8	
07.2	fine bakery wares (sweet, salty, savoury) and mixes	200	mg/kg		8	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts	500	mg/kg	Note 16	8	
08.1.2	fresh meat, poultry, and game, comminuted	100	mg/kg	Note 117	8	
08.2	processed meat, poultry, and game products in whole pieces or cuts	500	mg/kg	Note 16	8	
08.3.1.1	cured (including salted) non-heat treated processed comminuted meat, poultry, and game products	200	mg/kg	Note 118	8	
08.3.1.2	cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products	100	mg/kg		8	
08.3.1.3	fermented non-heat treated processed comminuted meat, poultry, and game products	100	mg/kg		8	
08.3.2	heat-treated processed comminuted meat, poultry, and game products	100	mg/kg		8	
08.3.3	frozen processed comminuted meat, poultry, and game products	500	mg/kg	Note 16	8	
08.4	edible casings (e.g., sausage casings)	500	mg/kg	Note 16	8	
09.1.1	fresh fish	300	mg/kg	Note 50	8	
09.1.2	fresh mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
09.2.4.1	cooked fish and fish products	500	mg/kg		8	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms	250	mg/kg		8	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 22	8	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	500	mg/kg	Note 16	8	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	500	mg/kg	Note 16	8	
09.3.3	salmon substitutes, caviar, and other fish roe products	500	mg/kg		8	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	100	mg/kg		8	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg	Note 16	8	
10.1	fresh eggs		GMP	Note 4	8	

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
10.4	egg-based desserts (e.g., custard)	150	mg/kg		8	
12.2.2	seasonings and condiments	500	mg/kg		8	
12.4	mustards	300	mg/kg		8	
12.5	soups and broths	50	mg/kg		8	
12.6	sauces and like products	500	mg/kg		8	
12.9.5	other protein products	100	mg/kg		8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	50	mg/kg		8	
13.4	dietetic formulae for slimming purposes and weight reduction	50	mg/kg		8	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300	mg/kg		8	
13.6	food supplements	300	mg/kg		8	
14.2.1	beer and malt beverages	100	mg/kg		8	
14.2.2	cider and perry	200	mg/kg		8	
14.2.4	wines (other than grape)	200	mg/kg		5/8	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	200	mg/kg		8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	200	mg/kg		8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	100	mg/kg		8	

CAROTENES, VEGETABLE

Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	1000	mg/kg		5/8	
01.3.2	beverage whiteners	1000	mg/kg		5/8	
01.5.2	milk and cream powder analogues	1000	mg/kg		5/8	
01.6.1	unripened cheese	600	mg/kg		5/8	
01.6.2.1	ripened cheese, includes rind	600	mg/kg		8	
01.6.2.2	rind of ripened cheese	1000	mg/kg		5/8	
01.6.2.3	cheese powder (for reconstitution; e.g., for cheese sauces)	1000	mg/kg		5/8	
01.6.4	processed cheese	1000	mg/kg		5/8	
01.6.5	cheese analogues	1000	mg/kg	Note 3	5/8	
01.6.6	whey protein cheese	1000	mg/kg		5/8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	1000	mg/kg		5/8	
02.1	fats and oils essentially free from water	1000	mg/kg		5/8	
02.2.1.1	butter and concentrated butter	600	mg/kg		8	
02.2.1.2	margarine and similar products	25	mg/kg		5/8	
02.2.2	emulsions containing less than 80% fat	1000	mg/kg		5/8	
02.3	fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions	1000	mg/kg		5/8	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7	1000	mg/kg		5/8	
03.0	edible ices, including sherbet and sorbet	1000	mg/kg		5/8	
04.1.2.3	fruit in vinegar, oil, or brine	1000	mg/kg		5/8	
04.1.2.4	canned or bottled (pasteurized) fruit	1000	mg/kg		5/8	
04.1.2.5	jams, jellies and marmelades	1000	mg/kg		5/8	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		8	
04.1.2.7	candied fruit	1000	mg/kg		5/8	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	1000	mg/kg		5/8	
04.1.2.10	fermented fruit products	200	mg/kg		5/8	
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	1000	mg/kg		5/8	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	1000	mg/kg		5/8	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	1000	mg/kg		5/8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	500	mg/kg		5/8	
05.3	chewing gum	500	mg/kg		8	

CAROTENES, VEGETABLE

Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	20000	mg/kg		5/8	
06.3	breakfast cereals, including rolled oats	400	mg/kg		8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	1000	mg/kg		5/8	
06.6	batters (e.g., for breading or batters for fish or poultry)	1000	mg/kg		5/8	
07.1.2	crackers, excluding sweet crackers	1000	mg/kg		5/8	
07.1.4	bread-type products, including bread stuffing and bread crumbs	1000	mg/kg		5/8	
07.2	fine bakery wares (sweet, salty, savoury) and mixes	1000	mg/kg		5/8	
08.2	processed meat, poultry, and game products in whole pieces or cuts	5000	mg/kg	Note 16	8	
08.3.1	non-heat treated processed comminuted meat, poultry, and game products	20	mg/kg	Note 118	8	
08.3.2	heat-treated processed comminuted meat, poultry, and game products	20	mg/kg		8	
08.3.3	frozen processed comminuted meat, poultry, and game products	5000	mg/kg	Note 16	8	
08.4	edible casings (e.g., sausage casings)	5000	mg/kg		8	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg	Note 16	5/8	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms	1000	mg/kg		5/8	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg	Note 16	5/8	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg		5/8	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	1000	mg/kg	Note 16	5/8	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	1000	mg/kg	Note 16	5/8	
09.3.3	salmon substitutes, caviar, and other fish roe products	1000	mg/kg		5/8	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	1000	mg/kg	Note 16	5/8	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms	500	mg/kg		8	
10.1	fresh eggs	1000	mg/kg	Note 4	5/8	
10.2	egg products	1000	mg/kg		5/8	
10.4	egg-based desserts (e.g., custard)	150	mg/kg		8	
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	50	mg/kg		5/8	
12.4	mustards	1000	mg/kg		5/8	
12.5	soups and broths	1000	mg/kg		5/8	
12.6.1	emulsified sauces (e.g., mayonnaise, salad dressing)	2000	mg/kg		5/8	
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	2000	mg/kg		5/8	
12.6.3	mixes for sauces and gravies	2000	mg/kg		5/8	

CAROTENES, VEGETABLE

Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	1000	mg/kg		5/8	
12.9.5	other protein products	1000	mg/kg		5/8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	600	mg/kg		5/8	
13.4	dietetic formulae for slimming purposes and weight reduction	600	mg/kg		5/8	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	600	mg/kg		5/8	
13.6	food supplements	600	mg/kg		5/8	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	2000	mg/kg		8	
14.2.1	beer and malt beverages	600	mg/kg		5/8	
14.2.2	cider and perry	600	mg/kg		5/8	
14.2.4	wines (other than grape)	600	mg/kg		5/8	
14.2.6	distilled spirituous beverages containing more than 15% alcohol	600	mg/kg		5/8	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	600	mg/kg		5/8	

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.3	Fruit in vinegar, oil, or brine	100	mg/kg	Note 62	8	
04.1.2.4	Canned or bottled (pasteurized) fruit	100	mg/kg	Note 62	8	
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	100	mg/kg	Note 62	8	
04.1.2.10	Fermented fruit products	100	mg/kg	Note 62	8	
04.1.2.11	Fruit fillings for pastries	100	mg/kg	Note 62	8	
04.1.2.12	Cooked fruit	100	mg/kg	Note 62	8	
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	100	mg/kg	Note 62	8	
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	100	mg/kg	Note 62	8	
04.2.2.7	Fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10	100	mg/kg	Note 62	8	
04.2.2.8	Cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds	100	mg/kg	Note 62	8	

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	64	mg/kg	Note 62	8	

POLYSORBATES

Polyoxyethylene (20) Sorbitan Monolaurate INS: 432 Polyoxyethylene (20) Sorbitan INS: 433

Polyoxyethylene (20) Sorbitan Monopalmitate INS: 434 Polyoxyethylene (20) Sorbitan Monostearate INS: 435

Polyoxyethylene (20) Sorbitan Tristearate INS: 436

Function: Antifoaming Agent, Adjuvant, Emulsifier, Foaming Agent, Flour Treatment Agent, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.4.4	cream analogues	5000	mg/kg		8	
03.0	edible ices, including sherbet and sorbet	1000	mg/kg		8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	3000	mg/kg		8	
12.5	soups and broths	1000	mg/kg		8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	1000	mg/kg		8	
13.4	dietetic formulae for slimming purposes and weight reduction	1000	mg/kg		8	

RIBOFLAVINS

Riboflavin 5'-Phosphate, Sodium INS: 101i Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)	300	mg/kg		5/8	
01.3.2	beverage whiteners	300	mg/kg		5/8	
01.5.2	milk and cream powder analogues	300	mg/kg		5/8	
01.6.1	unripened cheese	300	mg/kg		5/8	
01.6.2.1	ripened cheese, includes rind	300	mg/kg		5/8	
01.6.2.2	rind of ripened cheese	300	mg/kg		5/8	
01.6.4	processed cheese	300	mg/kg		5/8	
01.6.5	cheese analogues	300	mg/kg		5/8	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	300	mg/kg		5/8	
02.2.1.3	Blends of butter and margarine	300	mg/kg		5/8	
02.2.2	Emulsions containing less than 80% fat	300	mg/kg		5/8	
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	300	mg/kg		5/8	

RIBOFLAVINS

Riboflavin 5'-Phosphate, Sodium INS: 101i Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
03.0	edible ices, including sherbet and sorbet	500	mg/kg		8	
04.1.1.2	surface-treated fresh fruit	300	mg/kg	Note 16	5/8	
04.1.2.4	canned or bottled (pasteurized) fruit	300	mg/kg		5/8	
04.1.2.5	jams, jellies and marmelades	200	mg/kg		8	
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	500	mg/kg		8	
04.1.2.7	candied fruit	300	mg/kg		5/8	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk	300	mg/kg		5/8	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts	300	mg/kg		5/8	
04.1.2.11	fruit fillings for pastries	300	mg/kg			
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds	300	mg/kg	Note 16	5/8	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce	500	mg/kg		8	
05.1.5	imitation chocolate, chocolate substitute products	1000	mg/kg		5/8	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	1000	mg/kg		5/8	
05.3	chewing gum	1000	mg/kg		5/8	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	1000	mg/kg		5/8	
06.3	breakfast cereals, including rolled oats	300	mg/kg		5/8	
06.4.3	pre-cooked pastas and noodles and like products	300	mg/kg		5/8	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	300	mg/kg		5/8	
06.6	batters (e.g., for breading or batters for fish or poultry)	300	mg/kg		5/8	
07.2	Fine bakery wares (sweet, salty, savoury) and mixes	300	mg/kg		5/8	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 16	5/8	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 16	5/8	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 16	5/8	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	300	mg/kg	Note 22	5/8	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly	300	mg/kg	Note 16	5/8	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine	300	mg/kg	Note 16	5/8	
09.3.3	salmon substitutes, caviar, and other fish roe products	300	mg/kg		5/8	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3	300	mg/kg		5/8	
10.1	fresh eggs	300	mg/kg	Note 4	5/8	

RIBOFLAVINS

Riboflavin 5'-Phosphate, Sodium INS: 101i Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
10.4	egg-based desserts (e.g., custard)	300	mg/kg		5/8	
11.3	sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	300	mg/kg		5/8	
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	300	mg/kg		5/8	
12.2.2	seasonings and condiments	350	mg/kg		5/8	
12.4	mustards	300	mg/kg		5/8	
12.5.1	ready-to-eat soups and broths, including canned, bottled, and frozen	200	mg/kg		8	
12.5.2	mixes for soups and broths	150	mg/kg		8	
12.6	sauces and like products	350	mg/kg		5/8	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	300	mg/kg		5/8	
12.9.5	other protein products	300	mg/kg		5/8	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	300	mg/kg		5/8	
13.4	dietetic formulae for slimming purposes and weight reduction	300	mg/kg		5/8	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6	300	mg/kg		5/8	
13.6	food supplements	300	mg/kg		5/8	
14.1.4	water-based flavoured drinks, including "sport," "energy," or "electrolyte" drinks and particulated drinks	50	mg/kg		8	
14.2.2	cider and perry	300	mg/kg		5/8	
14.2.4	wines (other than grape)	300	mg/kg		5/8	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	100	mg/kg		8	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	1000	mg/kg		5/8	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	1000	mg/kg		5/8	

MINERAL OIL, high viscosity and MINERAL OIL, medium and low viscosity

Mineral oil, high viscosity and Mineral oil , medium and low viscosity INS: 905d and 905e

Function: Glazing agent and release agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.2	Dried fruit	5000	mg/kg		8	

ADDITIVES FOR INCLUSION IN TABLE 3 OF THE GSFA (ADDITIVES PERMITTED FOR USE IN FOOD IN GENERAL, UNLESS OTHERWISE SPECIFIED, IN ACCORDANCE WITH GMP)

INS. number	Additive
457	α-Cyclodextrin
468	Cross-linked carboxymethyl cellulose
1451	Acetylated oxidized starch

Notes to the Comments for the General Standard for Food Additives (37^{th} CCFAC)

Note 1: As adipic acid

Note 2: On dry ingredient, dry weight, dry mix or concentrate basis.

Note 3: Surface treatment.

Note 4: For decoration, stamping, marking or branding the product.

Note 5: Used in raw materials for manufacture of the finished food.

Note 6: As aluminium.

Note 7: Use level not in finished food.

Note 8: As bixin.

Note 9: As total bixin or norbixin.

Note 10: As ascorbyl stearate.

Note 11: Flour basis.

Note 12: Carryover from flavouring substances.

Note 13: As benzoic acid.

Note 14: Served at greater than 5-fold dilution.

Note 15: Fat or oil basis.

Note 16: For use in glaze, coatings or decorations for fruit, vegetables, meat or fish.

Note 17: As cyclamic acid.

Note 18: Added level; residue not detected in ready-to-eat food.

Note 19: Used in cocoa fat; use level on ready-to-eat basis.

Note 20: On total amount of stabilizers, thickeners and/or gums.

Note 21: As anhydrous calcium disodium EDTA.

Note 22: For use in smoked fish products only.

Note 23: As iron.

Note 24: As anhydrous sodium ferrocyanide.

Note 25: As formic acid.

Note 26: For use in baking powder only.

Note 27: As p-hydroxybenzoic acid.

Note 28: ADI conversion: if a typical preparation contains 0.025 µg/U, then the ADI of 33,000 U/kg bw becomes: [(33000 U/kg bw) x (0.025 µg/U) x (1 mg/1000 µg)] = 0.825 mg/kg bw

Note 29: Reporting basis not specified.

Note 30: As residual NO3 ion.

Note 31: Of the mash used.

Note 32: As residual NO2 ion.

Note 33: As phosphorus.

Note 34: Anhydrous basis.

Note 35: For use in cloudy juices only.

Note 36: Residual level.

Note 37: As weight of nonfat milk solids.

Note 38: Level in creaming mixture.

Note 39: Only when product contains butter or other fats and oils.

Note 40: INS 451i only, to enhance the effectiveness of benzoates and sorbates.

Note 41: Use in breading or batter coatings only.

Note 42: As sorbic acid

Note 43: As tin.

Note 44: As residual SO2.

Note 45: As tartaric acid.

Note 46: As thiodipropionic acid.

Note 47: On egg yolk weight, dry basis.

Note 48: For olives only.

Note 49: For use on citrus fruits only.

Note 50: For use in fish roe only.

Note 51: For use in herbs only.

Note 52: For use in butter only.

Note 53: For use in coatings only.

Note 54: For use in cocktail cherries and candied cherries only

Note 55: Added level.

Note 56: Provided starch is not present.

Note 57: GMP is 1 part benzoyl peroxide and not more than 6 parts of the subject additive by

Note 58: As calcium.

Note 59: Use as packing gas.

Note 60: If used as a carbonating agent, the CO2 in the finished wine shall not exceed 39.2 mg/kg.

Note 61: For use in minced fish only.

Note 62: As copper.

Note 63: On amount of dairy ingredients.

Note 64: Level added to dry beans; 200 mg/kg in ready-to-eat food, anhydrous basis.

Note 65: Carryover from nutrient preparations.

Note 66: As formaldehyde. For use in provolone cheese only.

Note 67: Except for use in liquid egg whites at 8800 mg/kg as phosphorus, and in liquid whole eggs at 14,700 mg/kg as phosphorus.

Note 68: For use in natural mineral waters only.

Note 69: Use as carbonating agent.

Note 70: As the acid.

Note 71: Calcium, potassium and sodium salts only.

Note 72: Ready-to-eat basis.

Note 73: Except whole fish.

Note 74: Use level for deep orange colored cheeses; 25 mg/kg for orange colored cheeses; 10 mg/kg for normal colored cheeses.

Note 75: Use in milk powder for vending machines only.

Note 76: Use in potatoes only.

Note 77: As mono-isopropyl citrate.

Note 78: For use in tocino (fresh, cured sausage) only.

Note 79: For use on nuts only.

Note 80: Equivalent to 2 mg/dm2 surface application to a maximum depth of 5 mm.

Note 81: Equivalent to 1 mg/dm2 surface application to a maximum depth of 5 mm.

Note 82: For use in shrimp; 6000 mg/kg for Crangon crangon and Crangon vulgaris.

Note 83: For use in sauce only.

Note 84: For infants over 1 year of age only.

Note 85: Excluding use in surimi and fish roe products at 500 mg/kg.

Note 86: Use in whipped dessert toppings other than cream only.

Note 87: Treatment level.

Note 88: Carryover from the ingredient.

Note 89: Except for use in dried tangle (KONBU) at 150 mg/kg.

Note 90: For use in milk-sucrose mixtures used in the finished product.

Note 91: Benzoates and sorbates, singly or in combination.

Note 92: On the weight of the protein before re-hydration.

Note 93: Except natural wine produced from Vitis Vinifera grapes.

Note 94: For use in loganiza (fresh, uncured sausage) only.

Note 95: For use in surimi and fish roe products only.

Note 96: Carryover from use in fats.

Note 97: In cocoa and chocolate products.

Note 98: For dust control.

Note 99: For use in fish fillets and minced fish only.

Note 100: For use as a dispersing agent in dill oil used in the final food.

Note 101: Level based on the maximum recommended daily dose of 475 mg/dose, assuming one 600 mg tablet is consumed per day.

Note 102: For use as a surfactant or wetting agent for colours in the food.

Note 103: Except for use in special white wines at 400 mg/kg.

Note 104: Maximum 5000 mg/kg residue in bread and yeast-leavened bakery products.

Note 105: Except for use in dried gourd strips (KAMPYO) at 5000 mg/kg.

Note 106: Except for use in Dijon mustard at 500 mg/kg.

Note 107: Except for use in food-grade dendridic salt at 29,000 mg/kg as anhydrous sodium ferrocyanide.

Note 108: For use on coffee beans only.

Note 109: Use level reported as 25 lbs/1000 gal x (0.45 kg/lb) x (1 gal/3.75 L) x (1 L/kg) x (106mg/kg) = 3000 mg/kg

Note 110: For use in frozen French fried potatoes only.

Note 111: For use in dipping solution only.

Note 112: For use in grated cheese only.

Note 113: Excluding butter.

Note 114: Excluding cocoa powder.

Note 115: For use in pineapple juice only.

Note 116: For use in doughs only.

Note 117: Except for use in loganiza (fresh, uncured sausage) at 1000 mg/kg.

Note 118: Except for use in tocino (fresh, cured sausage) at 1000 mg/kg.

Note 119: As carrier for flavours.

Note 120: Except for use in caviar at 2500 mg/kg.

Note 121: Excluding fermented fish products at 1000 mg/kg.

Note 122: Subject to national legislation of the importing country.

Note 123: 1000 mg/kg for beverages with pH greater than 3.5.

Note 124: Only for products containing less than 7% ethanol.

Note 125: For use as a release agent for baking pans in a mixture with vegetable oil.

Note 126: For releasing dough in dividing or baking only.

Note 127: As served to the consumer.

Note 128: INS 334 only.

Note 129: For use as an acidity regulator in grape juice.

Note 130: Singly or in combination: Butylated Hyroxyanisole (BHA, INS 320), Butylated Hydoxytoluene (BHT, INS 321), Tertiary Butylated Hydroxyquinone (TBHQ, INS 319) and Propyl Gallate (INS 310)

Note 131: On a dried weight basis of the high intensity sweetener.

Appendix XI

REVOCATION OF FOOD ADDITIVE PROVISIONS IN THE GENERAL STANDARD FOR FOOD ADDITIVES

Food Category No. 14.1.2 Fruit and vegetable juices					
Additive	**INS**	**Step**	**Max**	**Level**	**Comments**
POLYDIMETHYLSILOXANE	900a	8 (1999)	10	mg/kg	

Food Category No. 12.1.1 Salt					
Additive	**INS**	**Step**	**Max**	**Level**	**Comments**
POLYDIMETHYLSILOXANE	900a	Step 8 (1999)	10	mg/kg	Note 36

ISOPROPYL CITRATES

Isopropyl Citrates INS: 384

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	**Food Category**	**Max**	**Level**	**Comments**	**Step**	**Year**
02.1.2	Vegetable oils and fats	100	mg/kg		8	2001

GLYCEROL ESTER OF WOOD ROSIN

Glycerol Ester of Wood Rosin INS: 445

Function: Adjuvant, Bulking Agent, Emulsifier, Stabilizer, Thickener

Food Cat. No.	**Food Category**	**Max**	**Level**	**Comments**	**Step**	**Year**
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	60	mg/kg		8	1999

GALLATE, PROPYL

Gallate, Propyl INS: 310

Function: Antioxidant

Food Cat. No.	**Food Category**	**Max**	**Level**	**Comments**	**Step**	**Year**
15.0	Ready-to-eat savouries	200	mg/kg	Notes 15	8	2001

ASCORBYL ESTERS

Ascorbyl Palmitate INS: 304 Ascorbyl Stearate INS: 305

Function: Antioxidant

Food Cat. No.	**Food Category**	**Max**	**Level**	**Comments**	**Step**	**Year**
12.6.2	Non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)	200	mg/kg	Note 10	8	2001
13.1	Infant formulae, follow-up formulae, and formulae for special medical purposes for infants	50	mg/kg	Note 10	8	2001

ASCORBYL ESTERS

Ascorbyl Palmitate INS: 304 Ascorbyl Stearate INS: 305

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)	100	mg/kg	Note 10	8	2001

Note 10: As ascorbyl stearate.

Note 36: Residual level.

Appendix XII

DISCONTINUATION OF WORK ON PROPOSED DRAFT AND DRAFT FOOD ADDITIVE PROVISIONS IN THE GENERAL STANDARD FOR FOOD ADDITIVES

CARNAUBA WAX

Carnauba Wax INS: 903

Function: Anticaking Agent, Adjuvant, Bulking Agent, Carrier Solvent, Glazing Agent, Release Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
05.3	chewing gum	10000	Mg/kg	Note 3	3	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces	10000	mg/kg		6	
07.0	bakery wares	10000	mg/kg	Note 3	3	
12.6	sauces and like products		GMP		6	

BENZOATES

Benzoic Acid INS: 210 Sodium Benzoate INS: 211
Potassium Benzoate INS: 212 Calcium Benzoate INS: 213

Function: Preservative

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
08.3.2	heat-treated processed comminuted meat, poultry, and game products	1000	mg/kg	Note 13	3	
14.1.1.2	table waters and soda waters	200	mg/kg	Note 13	6	

STEARYL TARTRATE

Stearyl Tartrate INS: 483

Function: Emulsifier, Flour Treatment Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	5000	mg/kg		6	
02.4	Fat-based desserts excluding dairy-based dessert products of food category 01.7	5000	mg/kg		6	
04.1.2.9	Fruit-based desserts, including fruit-flavoured water- based desserts	5000	mg/kg		6	
04.2.2.6	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5	5000	mg/kg		6	
06.5	Cereal and starch based desserts (e.g., rice pudding, tapioca pudding)	5000	mg/kg		6	
07.0	Bakery wares	4000	mg/kg		6	
10.4	Egg-based desserts (e.g., custard)	5000	mg/kg		6	

POLYDIMETHYLSILOXANE

Polydimethylsiloxane INS: 900a

Function: Anticaking Agent, Antifoaming Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.7	Dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)	50	mg/kg		6	
03.0	Edible ices, including sherbet and sorbet	50	mg/kg		6	
04.1.2.11	Fruit fillings for pastries	50	mg/kg		6	
05.4	Decorations (e.g., for fine bakery wares), toppings (non- fruit) and sweet sauces	50	mg/kg		6	
07.0	Bakery wares	10	mg/kg	Notes 3 & 36	6	
08.2	Processed meat, poultry, and game products in whole pieces or cuts	50	mg/kg		6	
08.3	Processed comminuted meat, poultry, and game products	50	mg/kg		6	

POLYDIMETHYLSILOXANE
Polydimethylsiloxane INS: 900a

Function: Anticaking Agent, Antifoaming Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
09.2	Processed fish and fish products, including mollusks, crustaceans, and echinoderms	50	mg/kg		6	
10.2	Egg products	50	mg/kg		6	
10.3	Preserved eggs, including alkaline, salted, and canned eggs	50	mg/kg		6	
10.4	Egg-based desserts (e.g., custard)	50	mg/kg		6	
11.3	Sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3	10	mg/kg		6	
11.4	Other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)	50	mg/kg		6	
11.6	Table-top sweeteners, including those containing high-intensity sweeteners	50	mg/kg		6	
12.2.2	Seasonings and condiments	50	mg/kg		3	
12.6.1	Emulsified sauces (e.g., mayonnaise, salad dressing)	50	mg/kg		6	
12.6.2	Non-emulsified sauces (e.g., ketchup, cheese sauce cream sauce, brown gravy)	10	mg/kg		6	
12.6.3	Mixes for sauces and gravies	10	mg/kg		6	
12.6.4	Clear sauces (e.g., fish sauce)	10	mg/kg		6	
12.8	Yeast and like products	50	mg/kg		6	
14.1.5	Coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa	50	mg/kg		6	
14.2.2	Cider and perry	50	mg/kg		6	
14.2.6	Distilled spirituous beverages containing more than 15% alcohol	50	mg/kg		6	

POLYVINYLPYRROLIDONE
Polyvinylpyrrolidone INS: 1201

Function: Adjuvant, Emulsifier, Glazing Agent, Stabilizer, Thickener

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.2.3	Grape wines	60	mg/kg	Note 36	6	

MICROCRYSTALLINE WAX
Microcrystalline Wax INS: 905ci

Function: Antifoaming Agent, Bulking Agent, Glazing Agent

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
05.1.4	Cocoa and chocolate products	10000	mg/kg		6	
05.1.5	Imitation chocolate, chocolate substitute products	10000	mg/kg		6	
05.2	Confectionery including hard and soft candy, nougats, etc. other than food categories 05.1, 05.3 and 05.4	10000	mg/kg		6	
05.4	Decorations (e.g., for fine bakery wares), toppings (non- fruit) and sweet sauces	10000	mg/kg		6	

EDTAs
Calcium Disodium Ethylene Diamine Tetra Acetate INS: 385
Disodium Ethylene Diamine Tetra Acetate INS: 386

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.8	Fruit preparations, including pulp, purees, fruit toppings and coconut milk	650	mg/kg	Note 21	6	
12.6.3	Mixes for sauces and gravies	75	mg/kg	Note 21	6	
12.6.4	Clear sauces (e.g., fish sauce)	75	mg/kg	Note 21	6	
14.2.2	Cider and perry	25	mg/kg	Note 21	6	
14.2.3	Grape wines	25	mg/kg	Note 21	6	

EDTAs

Calcium Disodium Ethylene Diamine Tetra Acetate INS: 385

Disodium Ethylene Diamine Tetra Acetate INS: 386

Function: Antioxidant, Preservative, Sequestrant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.2.4	Wines (other than grape)	25	mg/kg	Note 21	6	
14.2.5	Mead	25	mg/kg	Note 21	6	

ASCORBYL ESTERS

Ascorbyl Palmitate INS: 304

Ascorbyl Stearate INS: 305

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
13.1.1	Infant formulae	10	mg/kg	Note 10	3	
13.1.2	Follow-up formulae	50	mg/kg	Note 10	3	
13.1.3	Formulae for special medical purposes for infants	100	mg/kg	Note 10	3	
13.3	Dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP	Note 10	3	

GALLATE, PROPYL

Gallate, Propyl INS: 310

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.2.2.5	Vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut	200	mg/kg	Note 15	6	
06.4.2	Dried pastas and noodles and like products	200	mg/kg		3	
06.4.3	Pre-cooked pastas and noodles and like products	200	mg/kg		3	
07.0	Bakery wares	1000	mg/kg	Notes 15 & 96	6	
09.2.1	Frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms	1000	mg/kg	Note 111	6	
12.5	Soups and broths	200	mg/kg	Note 15	6	

BHA

Butylated Hydroxyanisole INS: 320

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.3.2	Beverage whiteners	100	mg/kg		6	
04.1.2.6	Fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	100	mg/kg		6	
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	100	mg/kg		6	
05.1.3	Cocoa-based spreads, including fillings	100	mg/kg		6	
06.1	Whole, broken, or flaked grain, including rice	100	mg/kg		6	
06.4.3	Pre-cooked pastas and noodles and like products	100	mg/kg		6	
08.1	Fresh meat, poultry, and game	100	mg/kg	Note 15	6	
12.4	Mustards	200	mg/kg		6	
12.5.2	Mixes for soups and broths	300	mg/kg	Note 15	6	
12.7	Salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	200	mg/kg		6	

BHT
Butylated Hydroxytoluene INS: 321

Function: Adjuvant, Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.3.2	Beverage whiteners	100	mg/kg		6	
04.1.2.2	Dried fruit	100	mg/kg		6	
04.1.2.6	Fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5	100	mg/kg		6	
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	90	mg/kg		6	
08.1	Fresh meat, poultry, and game	100	mg/kg	Note 15	6	
12.4	Mustards	100	mg/kg		6	
12.7	Salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3	100	mg/kg		6	
12.8	Yeast and like products	100	mg/kg		6	

TBHQ
Tertiary Butylhydroquinone INS: 319

Function: Antioxidant

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	Dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey- based drinks)	200	mg/kg		3	
05.1	Cocoa products and chocolate products including imitations and chocolate substitutes	200	mg/kg	Note 15	6	
08.1	Fresh meat, poultry, and game	100	mg/kg	Note 15	6	
09.2.5	Smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms	200	mg/kg		6	

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e Tartaric, Acetic & Fatty Acid Esters of Glycerol (Mixed) INS: 472f

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.1.2	buttermilk (plain)		GMP			6
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP			6
01.2.1.2	fermented milks (plain), heat-treated after fermentation		GMP			6
01.2.2	renneted milk (plain)		GMP			6
01.5.2	milk and cream powder analogues		GMP			6
01.6.1	unripened cheese		GMP			6
01.6.2.1	ripened cheese, includes rind		GMP			6
01.6.4	processed cheese		GMP			6
01.6.5	cheese analogues		GMP			6
04.1.1.2	surface-treated fresh fruit		GMP	Note 16		6
04.1.2.2	dried fruit		GMP			6
04.1.2.3	fruit in vinegar, oil, or brine		GMP			6
04.1.2.6	fruit-based spreads (e.g., chutney) excluding products of food category 04.1.2.5		GMP			6
04.1.2.7	candied fruit		GMP			6
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk		GMP			6
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP			6
04.1.2.10	fermented fruit products		GMP			6
04.1.2.12	cooked fruit		GMP			6
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP	Note 16		6
04.2.2.2	dried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP			6
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce		GMP			6
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5		GMP			6
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10		GMP			6
04.2.2.8	cooked or fried vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds		GMP			6
05.1	cocoa products and chocolate products including imitations and chocolate substitutes	10000	mg/kg			6
06.6	batters (e.g., for breading or batters for fish or poultry)		GMP			6
08.1.1	fresh meat, poultry, and game, whole pieces or cuts		GMP	Note 16		6
08.1.2	fresh meat, poultry, and game, comminuted		GMP			6
08.2.1	non-heat treated processed meat, poultry, and game products in whole pieces or cuts		GMP			6
08.2.2	heat-treated processed meat, poultry, and game products in whole pieces or cuts		GMP			6
08.2.3	frozen processed meat, poultry, and game products in whole pieces or cuts		GMP	Note 16		6
08.3.1	non-heat treated processed comminuted meat, poultry, and game products		GMP			6
08.3.2	heat-treated processed comminuted meat, poultry, and game products		GMP			6
08.3.3	frozen processed comminuted meat, poultry, and game products		GMP	Note 16		6
08.4	edible casings (e.g., sausage casings)		GMP			6
09.1	fresh fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP			6
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6

DIACETYLTARTARIC AND FATTY ACID ESTERS OF GLYCEROL

Diacetyltartaric and Fatty Acid Esters of Glycerol INS: 472e Tartaric, Acetic & Fatty Acid Esters of Glycerol (Mixed) INS: 472f

Function: Emulsifier, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.4	cooked and/or fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP			6
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms		GMP			6
09.3	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms		GMP			6
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms		GMP			6
10.2.3	dried and/or heat coagulated egg products		GMP			6
10.4	egg-based desserts (e.g., custard)		GMP			6
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)		GMP			6
12.2.2	seasonings and condiments	1	mg/kg			6
12.3	vinegars		GMP			6
12.5	soups and broths		GMP			6
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP			6
12.9.5	other protein products		GMP			6
13.1.1	infant formulae		GMP			6
13.1.2	follow-up formulae		GMP			6
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP			6
13.4	dietetic formulae for slimming purposes and weight reduction		GMP			6
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP			6
13.6	food supplements		GMP			6
14.1.2.2	vegetable juice		GMP			6
14.1.2.4	concentrates for vegetable juice		GMP			6
14.1.5	coffee, coffee substitutes, tea, herbal infusions, and other hot cereal and grain beverages, excluding cocoa		GMP			6
14.2.2	cider and perry		GMP			6
14.2.4	wines (other than grape)		GMP			6
14.2.6	distilled spirituous beverages containing more than 15% alcohol		GMP			6
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP			6
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)		GMP			6
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)		GMP			6

SULPHITES

Sulphur Dioxide	INS: 220	Sodium Sulphite	INS: 221
Sodium Hydrogen Sulphite	INS: 222	Sodium Metabisulphite	INS: 223
Potassium Metabisuphite	INS: 224	Potassium Sulphite	INS: 225
Calcium Hydrogen Sulphite	INS: 227	Potassium Bisulphite	INS: 228
Sodium Thiosulphate	INS: 539		

Function: Acidity Regulator, Adjuvant, Antioxidant, Bleaching Agent (Not for Flour), Flour Treatment Agent, Firming Agent, Preservative, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)	2000	mg/kg	Note 44		6
05.1.1	cocoa mixes (powders) and cocoa mass/cake	2000	mg/kg	Note 44		6
05.1.2	cocoa mixes (syrups)	100	mg/kg	Note 44		6
05.1.3	cocoa-based spreads, including fillings	2000	mg/kg	Note 44		6
05.1.4	cocoa and chocolate products	100	mg/kg	Note 44		6
05.1.5	imitation chocolate, chocolate substitute products	2000	mg/kg	Note 44		6
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4	2000	mg/kg	Note 44		6
05.3	chewing gum	2000	mg/kg	Note 44		6
06.1	whole, broken, or flaked grain, including rice	400	mg/kg	Note 44		6
11.1.1	white sugar, dextorse anhydrous, dextrose monohydrate, fructose	20	mg/kg	Note 44		6

SULPHITES

Sulphur Dioxide	INS: 220	Sodium Sulphite	INS: 221
Sodium Hydrogen Sulphite	INS: 222	Sodium Metabisulphite	INS: 223
Potassium Metabisuphite	INS: 224	Potassium Sulphite	INS: 225
Calcium Hydrogen Sulphite	INS: 227	Potassium Bisulphite	INS: 228
Sodium Thiosulphate	INS: 539		

Function: Acidity Regulator, Adjuvant, Antioxidant, Bleaching Agent (Not for Flour), Flour Treatment Agent, Firming Agent, Preservative, Sequestrant, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
11.1.3	soft white sugar, soft brown sugar, glucose syrup, dried glucose syrup, raw cane sugar	400	mg/kg	Note 44	6	

CANTHAXANTHIN

Canthaxanthin INS: 161g

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
03.0	edible ices, including sherbet and sorbet		GMP		6	
04.1.2.4	canned or bottled (pasteurized) fruit		GMP		6	
05.1	cocoa products and chocolate products including imitations and chocolate substitutes		GMP		6	
08.4	edible casings (e.g., sausage casings)		GMP		6	
14.1.4.1	carbonated water-based flavoured drinks		GMP		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	

ERYTHROSINE

Erythrosine INS:127

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.2.1.1	butter and concentrated butter	300	mg/kg		6	
02.2.1.2	margarine and similar products	300	mg/kg		3	
02.2.1.2	margarine and similar products		GMP		6	
02.1.3	lard, tallow, fish oil, and other animal fats		GMP		6	
08.1	fresh meat, poultry, and game		GMP	Notes 3 & 4	6	
08.4	edible casings (e.g., sausage casings)		GMP		6	
10.1	fresh eggs		GMP	Notes 3 & 4	6	

IRON OXIDES

Iron Oxide, Black INS: 172i Iron Oxide, Red INS: 172ii Iron Oxide, Yellow INS: 172iii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP		6	
01.6.2.2	rind of ripened cheese		GMP		6	
01.6.4	processed cheese		GMP		6	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)		GMP		6	
02.2.1.2	margarine and similar products		GMP		6	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7		GMP		6	
03.0	edible ices, including sherbet and sorbet		GMP		6	
04.1.1.2	surface-treated fresh fruit		GMP	Note 16	6	
04.1.2.4	canned or bottled (pasteurized) fruit		GMP		6	
04.1.2.5	jams, jellies and marmelades		GMP		6	
04.1.2.7	candied fruit		GMP		6	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP		6	
04.2.1.2	surface-treated fresh vegetables (including mushrooms and		GMP	Note 16	6	

IRON OXIDES

Iron Oxide, Black INS: 172i Iron Oxide, Red INS: 172ii Iron Oxide, Yellow INS: 172iii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds					
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds		GMP		6	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4		GMP		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP		6	
06.3	breakfast cereals, including rolled oats		GMP		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)		GMP		6	
07.2	fine bakery wares (sweet, salty, savoury) and mixes		GMP		6	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts		GMP	Note 16	6	
09.3.3	salmon substitutes, caviar, and other fish roe products		GMP		6	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3		GMP		6	
12.2.2	seasonings and condiments		GMP		6	
12.5	soups and broths		GMP		6	
12.6	sauces and like products		GMP		6	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)		GMP		6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)		GMP		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15		GMP		6	

BRILLIANT BLUE FCF

Brilliant Blue FCF INS: 133

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.6.1	unripened cheese		GMP	Note 3	6	
01.6.3	whey cheese		GMP	Note 3	6	
01.6.5	cheese analogues		GMP	Note 3	6	
02.1.3	lard, tallow, fish oil, and other animal fats		GMP		6	
02.2.1.1	butter and concentrated butter	100	mg/kg		6	
02.2.1.2	margarine and similar products	200	mg/kg		3	
02.2.1.2	margarine and similar products		GMP		6	
11.1.2	powdered sugar, powdered dextrose	100	mg/kg		6	
14.2.1	beer and malt beverages		GMP		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	500	mg/kg		6	

CARMINES

Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
02.1	fats and oils essentially free from water	500	mg/kg		3	
02.1	fats and oils essentially free from water		GMP		6	
02.2	fat emulsions mainly of type water-in-oil	500	mg/kg		3	
02.2	fat emulsions mainly of type water-in-oil		GMP		6	
02.2.1.2	Margarine and similar products	500	mg/kg		3	
05.1.3	Cocoa-based spreads, incl. fillings	300	mg/kg		6	
05.1.4	Cocoa and chocolate products	300	mg/kg		6	
05.1	cocoa products and chocolate products including imitations and chocolate substitutes	300	mg/kg		6	
06.6	batters (e.g., for breading or batters for fish or poultry)		GMP		6	
14.2.3.1	still grape wine	200	mg/kg		6	
14.2.3.2	sparkling and semi-sparkling grape wines	200	mg/kg		6	

CARMINES
Carmines INS: 120

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
14.2.3.3	fortified grape wine, grape liquor wine, and sweet grape wine	200	mg/kg		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	500	mg/kg		6	

CAROTENES, VEGETABLE
Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP		6	
01.3.2	beverage whiteners		GMP		6	
01.4	cream (plain) and the like		GMP		6	
01.5.2	milk and cream powder analogues		GMP		6	
01.6.1	unripened cheese		GMP		6	
01.6.2.2	rind of ripened cheese		GMP		6	
01.6.2.3	cheese powder (for reconstitution; e.g., for cheese sauces)		GMP		6	
01.6.3	whey cheese		GMP	Note 3	6	
01.6.4	processed cheese		GMP		6	
01.6.5	cheese analogues		GMP	Note 3	6	
01.6.6	whey protein cheese		GMP		6	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)		GMP		6	
02.1	fats and oils essentially free from water		GMP		6	
02.2.2	Emulsions containing less than 80% fat		GMP		6	
02.3	Fat emulsions mainly of type oil-in-water, including mixed and/or flavoured products based on fat emulsions		GMP		6	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7		GMP		6	
03.0	edible ices, including sherbet and sorbet		GMP		6	
04.1.2.3	fruit in vinegar, oil, or brine		GMP		6	
04.1.2.4	canned or bottled (pasteurized) fruit		GMP		6	
04.1.2.5	jams, jellies and marmelades		GMP		6	
04.1.2.7	candied fruit		GMP		6	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP		6	
04.2.2.3	vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera) and seaweeds in vinegar, oil, brine, or soy sauce		GMP		6	
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)		GMP		6	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5		GMP		6	
04.2.2.7	fermented vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweed products, excluding fermented soybean products of food category 12.10		GMP		6	
05.1.3	cocoa-based spreads, including fillings		GMP		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP		6	
06.4.2	dried pastas and noodles and like products		GMP		6	
06.4.3	pre-cooked pastas and noodles and like products		GMP		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)		GMP		6	
07.2	fine bakery wares (sweet, salty, savoury) and mixes		GMP		6	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts		GMP	Note 16	6	
08.2	processed meat, poultry, and game products in whole pieces or cuts		GMP	Note 16	6	
08.3.3	frozen processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.4	edible casings (e.g., sausage casings)		GMP		6	
09.2.2	frozen battered fish, fish fillets, and fish products, including	1000	mg/kg	Note 16	3	

CAROTENES, VEGETABLE
Carotenes, Natural Extracts, (Vegetable) INS: 160aii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	mollusks, crustaceans, and echinoderms					
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.4.1	cooked fish and fish products		GMP		6	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms		GMP		6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 22	6	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly		GMP	Note 16	6	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine		GMP	Note 16	6	
09.3.3	salmon substitutes, caviar, and other fish roe products		GMP		6	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3		GMP	Note 16	6	
10.1	fresh eggs		GMP	Notes 3 & 4	6	
10.4	egg-based desserts (e.g., custard)		GMP		6	
12.4	mustards		GMP		6	
12.5	soups and broths		GMP		6	
12.6.1	emulsified sauces (e.g., mayonnaise, salad dressing)		GMP		6	
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)		GMP		6	
12.6.3	mixes for sauces and gravies		GMP		6	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP		6	
12.9.5	other protein products		GMP		6	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP		6	
13.4	dietetic formulae for slimming purposes and weight reduction		GMP		6	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP		6	
13.6	food supplements		GMP		6	
14.1.3.2	vegetable nectar		GMP		6	
14.1.3.4	concentrates for vegetable nectar		GMP		6	
14.2.2	cider and perry		GMP		6	
14.2.3.1	still grape wine	600	mg/kg		3	
14.2.3.2	sparkling and semi-sparkling grape wines	1000	mg/kg		3	
14.2.3.2	sparkling and semi-sparkling grape wines		GMP		6	
14.2.3.3	Fortified grape wine, grape liquor wine, and sweet grape wine	600	mg/kg		3	
14.2.4	wines (other than grape)		GMP		6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol		GMP		6	
14.2.7	Aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)		GMP		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15		GMP		6	

CHLOROPHYLLS, COPPER COMPLEXES
Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey based drinks)		GMP		6	
01.3.2	Beverage whiteners		GMP		6	
01.4	Cream (plain) and the like		GMP		6	
01.5.2	Milk and cream powder analogues		GMP		6	

CHLOROPHYLLS, COPPER COMPLEXES

Chlorophylls, Copper Complex INS: 141i Chlorophyllin Copper Complex, Sodium and Potassium Salts INS: 141ii

Function: Colour

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
01.6.1	Unripened cheese		GMP		6	
01.6.2.2	Rind of ripened cheese		GMP		6	
01.6.2.3	Cheese powder (for reconstitution; e.g., for cheese sauces)		GMP		6	
01.6.3	Whey cheese		GMP	Note 3	6	
01.6.4	Processed cheese		GMP		6	
01.6.5	Cheese analogues		GMP		6	
01.6.6	Whey protein cheese		GMP		6	
05.1.1	Cocoa mixes (powders) and cocoa mass/cake		GMP		6	
05.1.1	Cocoa mixes (powders) and cocoa mass/cake	6.4	mg/kg	Note 62	3	
05.1.2	Cocoa mixes (syrups)		GMP		6	
05.1.3	Cocoa-based spreads, including fillings		GMP		6	
05.4	Decorations (e.g., for fine bakery wares), toppings (nonfruit) and sweet sauces		GMP		6	
06.3	Breakfast cereals, including rolled oats		GMP		6	
06.6	Batters (e.g., for breading or batters of fish or poultry					
07.1.4	Bread-type products, including bread stuffing and bread crumbs		GMP	Note 116	6	
07.2.1	Cakes, cookies and pies (e.g., fruit-filled or custard types)	6.4	mg/kg	Note 62	6	
08.0	Meat and meat products, including poultry and game		GMP	Note 16	6	
09.1.1	Fresh fish		GMP	Note 50	6	
09.1.2	Fresh mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.2	Frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.3	Frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.4.2	Cooked mollusks, crustaceans, and echinoderms		GMP		6	
09.3.1	Fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly		GMP	Note 16	6	
09.3.2	Fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine		GMP	Note 16	6	
09.3.3	Salmon substitutes, caviar, and other fish roe products		GMP		6	
09.3.4	Semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3		GMP		6	
10.1	fresh eggs		GMP	Notes 3 & 4	3	
10.4	Egg-based desserts (e.g., custard)		GMP		6	
12.2.2	Seasonings and condiments		GMP		6	
12.6	Sauces and like products		GMP		6	
12.7	Salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP		6	
14.2.3.2	Sparkling and semi-sparkling grape wines		GMP		6	
14.2.3.3	Fortified grape wine, grape liquor wine, and sweet grape wine		GMP		6	
14.2.7	Aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	
15.1	Snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)		GMP		6	
15.2	Processed nuts, including coated nuts and nut mixtures (with e.g., dried fruit)		GMP		6	
16.0	Composite foods - foods that could not be placed in categories 01 – 15		GMP		6	

GRAPE SKIN EXTRACT

Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max Level		Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP		6	
01.3.2	beverage whiteners		GMP		6	
01.4	cream (plain) and the like		GMP		6	
01.5.2	milk and cream powder analogues		GMP		6	
01.6.1	unripened cheese		GMP		6	
01.6.2.2	rind of ripened cheese		GMP		6	
01.6.3	whey cheese		GMP	Note 3	6	
01.6.4.2	flavoured processed cheese, including containing fruit,		GMP		6	

GRAPE SKIN EXTRACT
Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
	vegetables, meat, etc.					
01.6.5	cheese analogues		GMP		6	
02.2.1.2	margarine and similar products	1000	mg/kg		3	
02.4	fat-based desserts excluding dairy-based dessert products of food category 01.7		GMP		6	
04.1.2.3	fruit in vinegar, oil, or brine		GMP		6	
04.1.2.4	canned or bottled (pasteurized) fruit		GMP		6	
04.1.2.5	jams, jellies and marmelades		GMP		6	
04.1.2.7	candied fruit		GMP		6	
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk		GMP		6	
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP		6	
04.1.2.11	fruit fillings for pastries		GMP		6	
04.2.2.5	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed purees and spreads (e.g., peanut butter)		GMP		6	
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5		GMP		6	
05.1.3	cocoa-based spreads, including fillings	10000	mg/kg		3	
05.1.3	cocoa-based spreads, including fillings		GMP		6	
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4		GMP		6	
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP		6	
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)		GMP		6	
07.0	bakery wares		GMP		6	
08.1.1	fresh meat, poultry, and game, whole pieces or cuts		GMP	Note 16	6	
08.2	processed meat, poultry, and game products in whole pieces or cuts		GMP	Note 16	6	
08.3.1.2	cured (including salted) and dried non-heat treated processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.3.1.3	fermented non-heat treated processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.3.2	heat-treated processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.3.3	frozen processed comminuted meat, poultry, and game products		GMP	Note 16	6	
08.4	edible casings (e.g., sausage casings)		GMP		6	
09.1.1	fresh fish		GMP	Note 50	6	
09.1.2	fresh mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.1	frozen fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.4.1	cooked fish and fish products		GMP		6	
09.2.4.2	cooked mollusks, crustaceans, and echinoderms		GMP		6	
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16	6	
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 22	6	
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly		GMP	Note 16	6	
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine		GMP	Note 16	6	
09.3.3	salmon substitutes, caviar, and other fish roe products		GMP		6	
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3		GMP	Note 16	6	
09.4	fully preserved, including canned or fermented fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 95	6	
10.1	fresh eggs		GMP	Notes 3 & 4	6	
10.4	egg-based desserts (e.g., custard)		GMP		6	
12.2.2	seasonings and condiments		GMP		6	
12.4	mustards		GMP		6	
12.5	soups and broths		GMP		6	
12.6.1	emulsified sauces (e.g., mayonnaise, salad dressing)		GMP		6	

GRAPE SKIN EXTRACT
Grape Skin Extract INS: 163ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
12.6.2	non-emulsified sauces (e.g., ketchup, cheese sauce, cream sauce, brown gravy)		GMP		6	
12.6.3	mixes for sauces and gravies		GMP		6	
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP		6	
12.9.5	other protein products		GMP		6	
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP		6	
13.4	dietetic formulae for slimming purposes and weight reduction		GMP		6	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP		6	
13.6	food supplements		GMP		6	
14.1.3.2	vegetable nectar		GMP		6	
14.1.3.4	concentrates for vegetable nectar		GMP		6	
14.2.1	beer and malt beverages		GMP		6	
14.2.2	cider and perry		GMP		6	
14.2.3.2	sparkling and semi-sparkling grape wines		GMP		6	
14.2.3.3	fortified grape wine, grape liquor wine, and sweet grape wine		GMP		6	
14.2.4	wines (other than grape)		GMP		6	
14.2.6	distilled spirituous beverages containing more than 15% alcohol		GMP		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)		GMP		6	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)		GMP		6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)		GMP		6	

POLYSORBATES
Polyoxyethylene (20) Sorbitan Monolaurate INS: 432
Polyoxyethylene (20) Sorbitan Monopalmitate INS: 434
Polyoxyethylene (20) Sorbitan Tristearate INS: 436
Polyoxyethylene (20) Sorbitan INS: 433
Polyoxyethylene (20) Sorbitan Monostearate INS: 435

Function: Antifoaming Agent, Adjuvant, Emulsifier, Foaming Agent, Flour Treatment Agent, Stabilizer

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
03.0	edible ices, including sherbet and sorbet	10000	mg/kg		3	
03.0	edible ices, including sherbet and sorbet	5000	mg/kg		6	
12.8	yeast and like products	4	mg/kg		6	
13.5	dietetic foods (e.g., supplementary foods for dietary use) excluding products of food categories 13.1 - 13.4 and 13.6		GMP		6	

RIBOFLAVINS
Riboflavin 5'-Phosphate, Sodium INS: 101i
Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
01.1.2	dairy-based drinks, flavoured and/or fermented (e.g., chocolate milk, cocoa, eggnog, drinking yoghurt, whey-based drinks)		GMP		6	
01.3.2	beverage whiteners		GMP		6	
01.4	cream (plain) and the like		GMP		6	
01.5.2	milk and cream powder analogues		GMP		6	
01.6.1	unripened cheese		GMP		6	
01.6.2.1	ripened cheese, includes rind		GMP		6	
01.6.2.2	rind of ripened cheese		GMP		6	
01.6.3	whey cheese		GMP	Note 3	6	
01.6.4	processed cheese		GMP		6	
01.6.5	cheese analogues		GMP		6	
01.7	dairy-based desserts (e.g., pudding, fruit or flavoured yoghurt)		GMP		6	
02.0	fats and oils, and fat emulsions		GMP		6	
02.0	fats and oils, and fat emulsions	300	mg/kg		3	
04.1.1.2	surface-treated fresh fruit		GMP	Note 16	6	
04.1.2.3	fruit in vinegar, oil, or brine		GMP		6	

RIBOFLAVINS

Riboflavin 5'-Phosphate, Sodium INS: 101i Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max	Level	Comments	Step	Year
04.1.2.4	canned or bottled (pasteurized) fruit		GMP			6
04.1.2.7	candied fruit		GMP			6
04.1.2.8	fruit preparations, including pulp, purees, fruit toppings and coconut milk		GMP			6
04.1.2.9	fruit-based desserts, including fruit-flavoured water-based desserts		GMP			6
04.1.2.11	fruit fillings for pastries		GMP			6
04.2.1.2	surface-treated fresh vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweeds, and nuts and seeds		GMP	Note 16		6
04.2.2.4	canned or bottled (pasteurized) or retort pouch vegetables (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), and seaweeds		GMP			6
04.2.2.6	vegetable (including mushrooms and fungi, roots and tubers, pulses and legumes, and aloe vera), seaweed, and nut and seed pulps and preparations (e.g., vegetable desserts and sauces, candied vegetables) other than food category 04.2.2.5		GMP			6
05.1	cocoa products and chocolate products including imitations and chocolate substitutes	1000	mg/kg			3
05.1.3	cocoa-based spreads, including fillings		GMP			6
05.2	confectionery including hard and soft candy, nougat, etc. other than food categories 05.1, 05.3 and 05.4		GMP			6
05.4	decorations (e.g., for fine bakery wares), toppings (non-fruit) and sweet sauces		GMP			6
06.3	breakfast cereals, including rolled oats		GMP			6
06.4.2	dried pastas and noodles and like products		GMP			6
06.4.3	pre-cooked pastas and noodles and like products		GMP			6
06.5	cereal and starch based desserts (e.g., rice pudding, tapioca pudding)		GMP			6
06.6	batters (e.g., for breading or batters for fish or poultry)		GMP			6
07.0	bakery wares	300	mg/kg			3
07.0	bakery wares		GMP			6
09.1.1	fresh fish		GMP	Note 50		6
09.1.2	fresh mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.2	frozen battered fish, fish fillets, and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.3	frozen minced and creamed fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.4.1	cooked fish and fish products		GMP			6
09.2.4.2	cooked mollusks, crustaceans, and echinoderms		GMP			6
09.2.4.3	fried fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 16		6
09.2.5	smoked, dried, fermented, and/or salted fish and fish products, including mollusks, crustaceans, and echinoderms		GMP	Note 22		6
09.3.1	fish and fish products, including mollusks, crustaceans, and echinoderms, marinated and/or in jelly		GMP	Note 16		6
09.3.2	fish and fish products, including mollusks, crustaceans, and echinoderms, pickled and/or in brine		GMP	Note 16		6
09.3.3	salmon substitutes, caviar, and other fish roe products		GMP			6
09.3.4	semi-preserved fish and fish products, including mollusks, crustaceans, and echinoderms (e.g., fish paste), excluding products of food categories 09.3.1 - 09.3.3		GMP			6
10.1	fresh eggs		GMP	Notes 3 & 4		6
10.4	egg-based desserts (e.g., custard)		GMP			6
11.3	sugar solutions and syrups, also (partially) inverted, including treacle and molasses, excluding products of food category 11.1.3		GMP			6
11.4	other sugars and syrups (e.g., xylose, maple syrup, sugar toppings)		GMP			6
12.2.2	seasonings and condiments		GMP			6
12.4	mustards		GMP			6
12.6	sauces and like products		GMP			6
12.7	salads (e.g., macaroni salad, potato salad) and sandwich spreads excluding cocoa- and nut-based spreads of food categories 04.2.2.5 and 05.1.3		GMP			6
12.9.5	other protein products		GMP			6
13.3	dietetic foods intended for special medical purposes (excluding products of food category 13.1)		GMP			6
13.4	dietetic formulae for slimming purposes and weight reduction		GMP			6
13.5	dietetic foods (e.g., supplementary foods for dietary use)		GMP			6

RIBOFLAVINS
Riboflavin 5'-Phosphate, Sodium INS: 101i Riboflavin 5'-Phosphate INS: 101ii

Function: Colour

Food Cat. No.	Food Category	Max Level	Comments	Step	Year
	excluding products of food categories 13.1 - 13.4 and 13.6				
13.6	food supplements	GMP		6	
14.1.3.2	vegetable nectar	GMP		6	
14.1.3.4	concentrates for vegetable nectar	GMP		6	
14.1.4	water-based flavoured drinks, including "sport," "energy" or "electrolyte" drinks and particulated drinks	100 mg/kg		3	
14.2.2	cider and perry	GMP		6	
14.2.3.2	sparkling and semi-sparkling grape wines	GMP		6	
14.2.3.2	sparkling and semi-sparkling grape wines	300 mg/kg		3	
14.2.3.3	fortified grape wine, grape liquor wine, and sweet grape wine	GMP		6	
14.2.3.3	fortified grape wine, grape liquor wine, and sweet grape wine	300 mg/kg		3	
14.2.4	wines (other than grape)	GMP		6	
14.2.7	aromatized alcoholic beverages (e.g., beer, wine and spirituous cooler-type beverages, low alcoholic refreshers)	300 mg/kg		3	
15.1	snacks - potato, cereal, flour or starch based (from roots and tubers, pulses and legumes)	GMP		6	
15.2	processed nuts, including covered nuts and nut mixtures (with e.g., dried fruit)	GMP		6	
16.0	composite foods - foods that could not be placed in categories 01 - 15	GMP		6	

Notes to the Comments for the General Standard for Food Additives (37th CCFAC)

Note 1: As adipic acid
Note 2: On dry ingredient, dry weight, dry mix or concentrate basis.
Note 3: Surface treatment.
Note 4: For decoration, stamping, marking or branding the product.
Note 5: Used in raw materials for manufacture of the finished food.
Note 6: As aluminium.
Note 7: Use level not in finished food.
Note 8: As bixin.
Note 9: As total bixin or norbixin.
Note 10: As ascorbyl stearate.
Note 11: Flour basis.
Note 12: Carryover from flavouring substances.
Note 13: As benzoic acid.
Note 14: Served at greater than 5-fold dilution.
Note 15: Fat or oil basis.
Note 16: For use in glaze, coatings or decorations for fruit, vegetables, meat or fish.
Note 17: As cyclamic acid.
Note 18: Added level; residue not detected in ready-to-eat food.
Note 19: Used in cocoa fat; use level on ready-to-eat basis.
Note 20: On total amount of stabilizers, thickeners and/or gums.
Note 21: As anhydrous calcium disodium EDTA.
Note 22: For use in smoked fish products only.
Note 23: As iron.
Note 24: As anhydrous sodium ferrocyanide.
Note 25: As formic acid.
Note 26: For use in baking powder only.
Note 27: As p-hydroxybenzoic acid.
Note 28: ADI conversion: if a typical preparation contains 0.025 µg/U, then the ADI of 33,000 U/kg bw becomes: [(33000 U/kg bw) x (0.025 µg/U) x (1 mg/1000 µg)] = 0.825 mg/kg bw
Note 29: Reporting basis not specified.
Note 30: As residual NO3 ion.
Note 31: Of the mash used.
Note 32: As residual NO2 ion.
Note 33: As phosphorus.
Note 34: Anhydrous basis.
Note 35: For use in cloudy juices only.
Note 36: Residual level.
Note 37: As weight of nonfat milk solids.
Note 38: Level in creaming mixture.

Note 39: Only when product contains butter or other fats and oils.
Note 40: INS 451i only, to enhance the effectiveness of benzoates and sorbates.
Note 41: Use in breading or batter coatings only.
Note 42: As sorbic acid
Note 43: As tin.
Note 44: As residual SO2.
Note 45: As tartaric acid.
Note 46: As thiodipropionic acid.
Note 47: On egg yolk weight, dry basis.
Note 48: For olives only.
Note 49: For use on citrus fruits only.
Note 50: For use in fish roe only.
Note 51: For use in herbs only.
Note 52: For use in butter only.
Note 53: For use in coatings only.
Note 54: For use in cocktail cherries and candied cherries only
Note 55: Added level.
Note 56: Provided starch is not present.
Note 57: GMP is 1 part benzoyl peroxide and not more than 6 parts of the subject additive by
Note 58: As calcium.
Note 59: Use as packing gas.
Note 60: If used as a carbonating agent, the CO2 in the finished wine shall not exceed 39.2 mg/kg.
Note 61: For use in minced fish only.
Note 62: As copper.
Note 63: On amount of dairy ingredients.
Note 64: Level added to dry beans; 200 mg/kg in ready-to-eat food, anhydrous basis.
Note 65: Carryover from nutrient preparations.
Note 66: As formaldehyde. For use in provolone cheese only.
Note 67: Except for use in liquid egg whites at 8800 mg/kg as phosphorus, and in liquid whole eggs at 14,700 mg/kg as phosphorus.
Note 68: For use in natural mineral waters only.
Note 69: Use as carbonating agent.
Note 70: As the acid.
Note 71: Calcium, potassium and sodium salts only.
Note 72: Ready-to-eat basis.
Note 73: Except whole fish.
Note 74: Use level for deep orange colored cheeses; 25 mg/kg for orange colored cheeses; 10 mg/kg for normal colored cheeses.
Note 75: Use in milk powder for vending machines only.
Note 76: Use in potatoes only.
Note 77: As mono-isopropyl citrate.
Note 78: For use in tocino (fresh, cured sausage) only.
Note 79: For use on nuts only.
Note 80: Equivalent to 2 mg/dm2 surface application to a maximum depth of 5 mm.
Note 81: Equivalent to 1 mg/dm2 surface application to a maximum depth of 5 mm.
Note 82: For use in shrimp; 6000 mg/kg for Crangon crangon and Crangon vulgaris.
Note 83: For use in sauce only.
Note 84: For infants over 1 year of age only.
Note 85: Excluding use in surimi and fish roe products at 500 mg/kg.
Note 86: Use in whipped dessert toppings other than cream only.
Note 87: Treatment level.
Note 88: Carryover from the ingredient.
Note 89: Except for use in dried tangle (KONBU) at 150 mg/kg.
Note 90: For use in milk-sucrose mixtures used in the finished product.
Note 91: Benzoates and sorbates, singly or in combination.
Note 92: On the weight of the protein before re-hydration.
Note 93: Except natural wine produced from Vitis Vinifera grapes.
Note 94: For use in loganiza (fresh, uncured sausage) only.
Note 95: For use in surimi and fish roe products only.
Note 96: Carryover from use in fats.
Note 97: In cocoa and chocolate products.
Note 98: For dust control.
Note 99: For use in fish fillets and minced fish only.
Note 100: For use as a dispersing agent in dill oil used in the final food.
Note 101: Level based on the maximum recommended daily dose of 475 mg/dose, assuming one 600 mg tablet is consumed per day.
Note 102: For use as a surfactant or wetting agent for colours in the food.
Note 103: Except for use in special white wines at 400 mg/kg.
Note 104: Maximum 5000 mg/kg residue in bread and yeast-leavened bakery products.
Note 105: Except for use in dried gourd strips (KAMPYO) at 5000 mg/kg.

Note 106: Except for use in Dijon mustard at 500 mg/kg.
Note 107: Except for use in food-grade dendridic salt at 29,000 mg/kg as anhydrous sodium ferrocyanide.
Note 108: For use on coffee beans only.
Note 109: Use level reported as 25 lbs/1000 gal x (0.45 kg/lb) x (1 gal/3.75 L) x (1 L/kg) x (106mg/kg) = 3000 mg/kg
Note 110: For use in frozen French fried potatoes only.
Note 111: For use in dipping solution only.
Note 112: For use in grated cheese only.
Note 113: Excluding butter.
Note 114: Excluding cocoa powder.
Note 115: For use in pineapple juice only.
Note 116: For use in doughs only.
Note 117: Except for use in loganiza (fresh, uncured sausage) at 1000 mg/kg.
Note 118: Except for use in tocino (fresh, cured sausage) at 1000 mg/kg.
Note 119: As carrier for flavours.
Note 120: Except for use in caviar at 2500 mg/kg.
Note 121: Excluding fermented fish products at 1000 mg/kg.
Note 122: Subject to national legislation of the importing country.
Note 123: 1000 mg/kg for beverages with pH greater than 3.5.
Note 124: Only for products containing less than 7% ethanol.
Note 125: For use as a release agent for baking pans in a mixture with vegetable oil.
Note 126: For releasing dough in dividing or baking only.
Note 127: As served to the consumer.
Note 128: INS 334 only.
Note 129: For use as an acidity regulator in grape juice.
Note 130: Singly or in combination: Butylated Hyroxyanisole (BHA, INS 320), Butylated Hydoxytoluene (BHT, INS 321), Tertiary Butylated Hydroxyquinone (TBHQ, INS 319) and Propyl Gallate (INS 310)
Note 131: On a dried weight basis of the high intensity sweetner

Appendix XIII

PROPOSED DRAFT AMENDMENTS TO THE INTERNATIONAL NUMBERING SYSTEM FOR FOOD ADDITIVES

(At Step 5/8 of the Procedure)

INS NUMBER	COMPOUND	TECHNOLOGICAL FUNCTION
161h	Zeaxanthin (synthetic)	Colour
960	Steviol glycosides	Sweetener
~~472f~~ (strike through = deleted)	~~Mixed tartaric, acetic and fatty acid esters of glycerol~~	~~Emulsifier, stabilizer, sequestrant~~
1204	Pullulan	Glazing agent, film forming agent

Appendix XIV

Project Document

Proposal for New Work on the revision of "Class Names and the International Numbering System for Food Additives" (CAC/GL 36-1989, rev. 6. 2001)

1. The purposes and scope of the Standard

The Class Names and the International Numbering System for Food Additives (INS) was first adopted by the Codex Alimentarius Commission in 1989, for the purpose of providing an agreed international numerical system for identifying food additives in ingredient lists, as an alternative to the declaration of the specific name which is often lengthy and a complex chemical structure.

2. Its relevance and timeliness

The Class Names and the International Numbering System for Food Additives (INS) has served well since its introduction and new additives with their numbers have been included as necessary. However, Section 2, Table of Functional Classes, Definitions and Technological Functions, has not been updated and now lacks certain functional classes, the addition of which are important for the completion of the Codex General Standard for Food Additives, which is being elaborated by the CCFAC. In addition a number of terms used to describe functional uses in evaluations published by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) do not coincide with those used by the INS, and harmonization of terms requires modification of the INS

3. The main aspects to be covered

Section 2 Table of Functional Classes, Definitions and Technological Functions, will be revised and updated. The technical function of each food additive listed will then need to be updated, after the new Functional Classes have been added to the Table 2, and the list of food additives included will be reviewed for completeness.

4. An assessment against the Criteria for the establishment of work priorities

This proposal is consistent with the following Criteria for the Establishment of Work priorities.

(a) Consumer protection from the point of view of health and fraudulent practices. (Correct description for labelling of foods for sale to the consumer)

(b) Diversification of national legislations and apparent or potential impediments to international trade. (It is important that the INS is up to date to have relevance for international trade.)

5. Relevance to Codex Strategic objectives

This proposal is consistent with the Strategic Vision statement of the strategic Framework 2003-2007.

6. Information on the relation between the proposal and other existing Codex documents

During the elaboration of the Codex General Standard for Food Additives it has been found that a number of INS Functional Classes relating to food additives in international use are either missing or inadequately described.

7. Identification of any requirement for and availability of expert scientific advice

The JECFA has been advised of the work proposed and of the CCFAC decision (ALINORM 04/27/12, para. 106) in which the JECFA was requested to use the INS Functional Class and sub-class names to describe functional uses in specification monographs. If no suitable term exists in the INS list, the question should be raised with the CCFAC. No need for expert scientific advice is foreseen in this new work.

8. Identification of any need for technical input to the standard from external bodies

No need for external input is anticipated

9. The proposed time line for completion of the new work, including the start date, proposed date for adoption at Step 5, and the proposed date for adoption by the Commission.

If the Commission approves, in 2005, that the Proposal for this New Work should proceed, then the proposed draft revision of the Class Names and the International Numbering System for Food Additives (INS) may be considered at the 38th Session of the CCFAC for advancement at Step 5 and an additional Session of CCFAC might be necessary to finalize the revision for adoption at Step 8 by the subsequent Session of the Codex Alimentarius Commission.

Appendix XV

TERMS OF REFERENCE FOR THE FAO/WHO JOINT EXPERT CONSULTATION TO CONDUCT A COMPREHENSIVE ASSESSMENT OF USE OF ACTIVE CHLORINE (ASPECTS RELEVANT TO CCFAC)

BACKGROUND

Active chlorine and drinking water

1. WHO has established maximum guideline levels for the chlorinated organic reaction by-products of hypochlorite solutions used to treat drinking water.[1] Although not the subject of this discussion paper, the establishment of these drinking-water guideline levels for chlorinated by-products from hypochlorite use raises the question of the potential formation of chlorinated by-products on food as a result of the treatment of food with water containing oxychloro chemicals. It is worth noting that other active chlorine compounds may be used in drinking water as a replacement for chlorine/hypochlorite to minimize chlorinated by-product formation. Nonetheless, the potential for chlorination, as opposed to oxidation, is an issue that should be considered during the risk assessment of active chlorine species. The conditions under which any active chlorine treatment is used may affect the likelihood of chlorination side reactions as well as the germicidal efficacy of the treatment.

The Chemistry of Active Chlorine Compounds used in Food

2. Active chlorine compounds currently used to treat food include hypochlorous acid and its conjugate base, hypochlorite ion, chlorous acid and its conjugate base chlorite ion, and chlorine dioxide. While other active chlorine chemistries such as sodium dichloroisocyanurate and chloramines exist, the drafting group is unaware that these other chemistries are used in or on food or in food processing water.

3. Hypochlorous Acid/Sodium or Calcium Hypochlorite (HOCl/NaOCl or $Ca(OCl)_2$) Elemental chlorine (a gas under ambient conditions), used in many of the larger facilities that process raw agricultural commodities, is first dissolved in water before it is applied directly to food. Upon dissolution, it rapidly reacts to form hypochlorous acid and hypochlorite ion. The rate of reaction is so rapid that at 0^o, only a few seconds are required to reach the equilibrium concentrations of the three species. The relative equilibrium concentrations are dependent on temperature, pH, and total chlorine concentration. Above a pH of 3, little elemental chlorine is present in solutions of less than 1000 mg/kg total chlorine. The principal chlorine-containing species under these conditions is hypochlorous acid. The equilibrium concentration of hypochlorite ion is several orders of magnitude lower than that of hypochlorous acid.

4. Hypochlorous acid is one of the most effective of all the oxychloro compounds in terms of germicidal properties.[2] The mechanism of its germicidal activity is thought to be due to its reaction with enzymes within the cell walls of microorganisms. Hypochlorous acid is similar in size and structure to water and, unlike the hypochlorite anion, possesses no charge, making it much easier for the acid to penetrate cell walls; therefore, it is a more effective than hypochlorite ion. Additionally, as the pH of a hypochlorous acid solution increases, the residual chlorine decreases, as does the germicidal efficacy. Nonetheless, between pH 3 and 7.5, dilute solutions contain very little dissolved chlorine gas. The fraction of hypochlorous acid, however, remains significant and, therefore, the solutions are effective antimicrobials through this broad pH range. The chlorine atom in hypochlorous acid can also readily undergo substitution reactions with organic compounds forming chlorinated organic compounds.

5. Chlorous Acid/Sodium Chlorite ($HClO_2$/$NaClO_2$) Sodium chlorite is manufactured by introducing chlorine dioxide gas into a basic aqueous solution containing a reducing agent, usually hydrogen peroxide. (Generally, hydrogen peroxide is recognized and used for its oxidizing properties. However, because chlorine dioxide is a stronger oxidizing agent than hydrogen peroxide, the latter acts as a reducing agent with respect to the former.) The hydrogen peroxide helps prevent disproportionation (decomposition) of chlorine dioxide which would yield chlorate. The final sodium chlorite product may be shipped dry, or as a solution.

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1 WHO, 1996, Guidelines for Drinking-Water Quality, - 2. ed. Mastercom/Wiener Verlag, Austria.

2 Geo. Clifford White, *Handbook of Chlorination for Potable Water, Wastewater, Coolong Water, Industrial Processes, and Swimming Pools*, Van Nostrand Reinhold Company, New York (1972) p. 216.

6. When sodium chlorite is used, it is diluted in an aqueous acidic solution (e.g., dilute hydrochloric acid). Sodium chlorite is the conjugate base of the weak acid chlorous acid with which it is in equilibrium in solution. The concentration of each species present in an aqueous solution is determined by the pH of the solution. In low pH solutions, chlorous acid decomposes into chlorine dioxide and chlorate ion. In the presence of chloride ion (i.e., if the acid is hydrochloric acid) the rate of decomposition increases, but the chlorate ion is not formed. The chlorine atom in chlorous acid is less likely to form carbon- and nitrogen-chlorination by-products than is the chlorine atom of hypochlorous acid.

7. Chlorine Dioxide. Chlorine dioxide (a gas) is produced at the site of use by treating an aqueous solution of sodium chlorite with either elemental chlorine, or a mixture of sodium hypochlorite and hydrochloric acid. Chlorine dioxide may also be generated by treating an aqueous solution of sodium chlorate with hydrogen peroxide in the presence of concentrated sulfuric acid.

8. Chlorine dioxide partitions between water and the gaseous state such that it is 23 times more concentrated in the aqueous phase when at equilibrium at 25°. The disproportionation of chlorine dioxide to chlorate and chlorite in aqueous solution is very slow. Thermal decomposition of chlorine dioxide to chlorate can be accelerated by lowering the pH, or by adding chloride ions. However, even then the thermal decomposition is appreciable only at high levels of acidity and temperatures. The chlorine atom in chlorine dioxide is also less likely to form carbon- and nitrogen-chlorination by-products than is the chlorine atom of hypochlorous acid.

Need for a Risk Assessment of Active Chlorine in Contact with Food

9. Active chlorine compounds, generally oxychloro species, enjoy varied uses in food processing in some Codex member countries. These compounds derive their germicidal activity from their ability to penetrate cell membranes, and oxidize enzymes that are essential to the life of microorganisms. In addition to oxidation reactions, oxychloro compounds may also undergo other reactions with organic compounds including carbon- and nitrogen-chlorination, addition reactions, and ester formation. The active chlorine compounds that are used in food processing also may undergo auto-decomposition (disproportionation).

10. The likelihood that chlorination rather than oxidation by-products will be formed as a result of the use of specific active chlorine interventions in or on food depends on the chemistry of the intervention, the commodity upon which it is applied, and the time/temperature and concentration conditions of use employed in the intervention. These conditions also affect the germicidal efficacy of such treatments.

11. Both an assessment of the risks associated with the residues and reaction products of active chlorine compounds in food and an assessment of the benefits relating to the reduction or elimination of microbiological contamination (both pathogenic and spoilage organisms) are necessary to determine whether the benefits of active chlorine treatments outweigh the risks, and to determine the conditions under which treatment is most beneficial.

12. Importantly, the development of useful risk management options depends on understanding the effects of various food processing parameters on the potential risks and benefits of such uses. By understanding these relationships, processors can design active chlorine interventions that maximize the benefits while minimizing the possible risks.

GENERAL PRINCIPLES AND RATIONAL FOR RISK ASSESSMENT

13. In defining the scope and questions for a risk assessment, it is essential to first define the active chlorine treatments to be assessed. In identifying such treatments, it is reasonable to segregate them by the chemistry of the chlorine species and the type of commodity (meat, fish, fruits and vegetables, etc.) to which it is applied.

14. The chemistries of the various oxychloro compounds used for microbiological interventions differ significantly. Consequently, their microbiological performance and potential for chlorination (versus oxidation) can also differ significantly. It is therefore reasonable to further sub-categorize these treatments by specific chemistry within each commodity. JECFA has done this in a toxicological monograph on the use of chlorine dioxide as a flour treatment agent[3] which was categorized as a "Chlorine IV" compound (The Roman numerals refer to the oxidation state of the chlorine in a given chemical species). National regulations in the United States have also established separate food additive regulations for chlorine dioxide (IV), and acidified sodium chlorite (III) solutions. Also, in 2003, the Scientific Committee on Veterinary Measures Relating to Public Health of the European Commission's Health and Consumer Protection Directorate-General issued a draft opinion on the Evaluation of Antimicrobial Treatments for Poultry Carcasses that provided criteria for assessing antimicrobial agents, and considered specifically chlorine dioxide (IV) and acidified chlorite (III) solutions.

15. The conditions of use of active chlorine treatments and the level and type of organic load encountered will likely differ for different commodity types. Further, the public health and/or economic benefits accrued by reducing microbial load as a result of active chlorine interventions are expected to be as different for each commodity type, as the microbiological flora common to each.

16. Questions relating to the changes in the composition of the microflora of the commodity, germicidal efficacy against various organisms, and public health consequences resulting from the specific active chlorine treatments are appropriately raised by the CCFH.

The Codex Committee on Food Additives and Contaminants wishes to ask the forthcoming FAO/WHO joint expert consultation to evaluate the following information of particular relevance to the Committee:

i. consumer exposure to the active chlorine species used to treat food or process water under the conditions of use identified by Codex;

ii. identify persistent active chlorine reaction by-products resulting from such use;

iii. consumer exposure to identified and persistent active chlorine reaction by-products;

iv. toxicological risk to the consumer resulting from the treatment of food with the identified active chlorine interventions including risks associated with the active chlorine -compounds and their persistent reaction by-products;

v. effects, if any, on the nutrient content of the treated food, including differences in these effects between commodities, as well as between poultry and beef carcasses and their respective parts.

[3] NMRS 35/TRS 281-JECFA 7/159

Appendix XVI

SPECIFICATIONS FOR THE IDENTITY AND PURITY OF FOOD ADDITIVES ARISING FROM THE 63RD JECFA MEETING

(At step 5/8 of the Procedure)

Note. Food additive specifications under Categories III, IV and V are included in the Report of the Working Group on Specifications (Conference Room Document 5)

CATEGORY I (RECOMMENDED TO THE COMMISSION FOR ADOPTION)

ADDITIVES (12 entries)

- Acetic acid, glacial
- Aluminium lakes of colouring matters (General specifications)
- Aluminium powder
- Benzoyl peroxide
- Hydrogen peroxide
- 1-Hydroxyethylidene-1,1-diphosphonic acid
- Hydroxypropyl cellulose
- Hydroxypropylmethyl cellulose
- Iron oxides
- Octanoic acid
- Xylanase from *Bacillus subtilus* expressed in *Bacillus subtilus*
- Xylanase (resistant to xylanase inhibitor) from *Bacillus subtilus* containing a modified xylanase gene from *Bacillus subtilus*

Arsenic and heavy metals limits for certain additives (Deletion of heavy metals (as lead) specification and new limits (mg/kg) for arsenic and lead – 71 substances):

Additive name	INS	As	Pb	Cd	Hg	Additive name	INS	As	Pb	Cd	Hg
Aluminium ammonium sulfate	523	-	3	-	-	Isopropyl acetate		-	2	-	-
Ammonium chloride	510	-	2	-	-	Lactic acid	270	-	2	-	-
Ammonium hydrogen carbonate	503 (ii)	-	2	-	-	Light petroleum		-	2	-	-
Azodicarbonamide	927 a	-	2	-	-	Lysozyme hydrochloride	1105	-	2	-	-
Bees wax	901	-	2	-	-	Magnesium chloride	511	-	2	-	-
Benzoic acid	210	-	2	-	-	Magnesium hydrogen phosphate	343 (ii)	3	4	-	-
Benzyl alcohol		-	2	-	-	Magnesium lactate	329	-	2	-	-
Butan-1,3-diol		-	2	-	-	Methanol		-	2	-	-
Butan-1-ol		-	2	-	-	Mineral oil (high viscosity)	905d	-	1	-	-
Butan-2-ol		-	2	-	-	Monoglyceride citrate		-	2	-	-
Butyl *p*-hydroxybenzoate		-	2	-	-	Potassium acetate	261	-	2	-	-
Calcium acetate	263	-	2	-	-	Potassium benzoate	212	-	2	-	-
Calcium benzoate	213	-	2	-	-	Potassium bromate	924 a	-	2	-	-
Calcium carbonate	170	3	3	-	-	Potassium chloride	508	-	2	-	-
Calcium chloride	509	-	2	-	-	Potassium dihydrogen phosphate	340(i)	3	4	-	-
Calcium cyclamate	952	-	1	-	-	Potassium iodate	917	-	2	-	-
Calcium hydrogen phosphate	341 (ii)	3	4	-	-	Potassium nitrate	252	-	2	-	-
Calcium sulfate	516	-	2	-	-	Potassium nitrite	249	-	2	-	-

Candelilla wax	902	-	2	-	-	Potassium sodium L(+) tartrate	337	-	2	-	-
Castor oil	1503	-	2	-	-	Potassium sulfate	515 (i)	-	2	-	-
Chlorine	925	-	2	-	1	Propylene glycol	1520	-	2	-	-
Citranaxanthin		-	2	-	-	Sodium benzoate	211	-	2	-	-
Cyclodextrin, beta-	459	-	1	-	-	Sodium carboxymethyl cellulose	466	-	2	-	-
Cyclohexane		-	2	-	-	Sodium cyclamate	952	-	1	-	-
Dammar gum		-	2	-	-	Sodium diacetate	262 (ii)	-	2	-	-
Diethyl tartrate		-	2	-	-	Sodium nitrate	251	-	2	-	-
Diethylene glycol monoethyl ether		-	2	-	-	Sodium nitrite	250	-	2	-	-
Dimethyl dicarbonate	242	-	2	-	-	Sodium percarbonate		-	2	-	-
Ferric ammonium citrate		-	2	-	-	Sodium thiocyanate		-	2	-	-
Glycerol	422	-	2	-	-	Sorbic acid	200	-	2	-	-
Glycerol diacetate		-	2	-	-	Sucralose	955	-	1	-	-
Heptanes		-	2	-	-	Tannic acid	181	-	2	-	-
Hexamethylene tetramine	239	-	2	-	-	Toluene		-	2	-	-
Isoamyl acetate		-	2	-	-						
Isobutanol		-	2	-	-						

FLAVOURING AGENTS (192 substances)

Jecfa no.	Name	Jecfa no.	Name
53	Citronellyl formate	1380	(E)-2-Nonenoic acid
55	Neryl formate	1381	(E)-2-Hexenyl hexanoate
68	Rhodinyl butyrate	1382	(Z)-3- & (E)-2-Hexenyl propionate
399	Methyl-beta-ionone	1383	(E)-2-Hexenal diethyl acetal
471	2,8-Dithianon-4-ene-4-carboxaldehyde	1384	2-Undecen-1-ol
504	S-Methyl benzothioate	1385	Borneol
557	1-Mercapto-2-propanone	1386	Isoborneol
570	Propenyl propyl disulfide	1387	Bornyl acetate
605	1,3-Nonanediol acetate (mixed esters)	1388	Isobornyl acetate
615	Butyl ethyl malonate	1389	Bornyl formate
628	Ethyl aconitate (mixed esters)	1390	Isobornyl formate
919	Glyceryl monooleate	1391	Isobornyl propionate
1203	Ammonium isovalerate	1392	Bornyl valerate
1218	4-Ethyloctanoic acid	1393	Bornyl isovalerate (endo-)
1263	Isoeugenyl phenylacetate	1394	Isobornyl isovalerate
1273	Ethyl 5-hexenoate	1395	d-Camphor
1291	3-Mercapto-2-methylpentan-1-ol (racemic)	1396	d-Fenchone
1296	spiro[2,4-Dithia-1-methyl-8-oxabicyclo(3.3.0)octane-3,3'-(1'- oxa-2'-methyl)-cyclopentane]	1397	Fenchyl alcohol
1301	Indole	1398	Nootkatone
1302	6-Methylquinoline	1399	1,3,3-Trimethyl-2-norbornanyl acetate
1303	Isoquinoline	1400	Methyl jasmonate
1304	Skatole	1401	Cycloheptadeca-9-en-1-one
1305	1-Ethyl-2-acetylpyrrole	1402	3-Methyl-1-cyclopentadecanone
1306	1-Methyl-2-acetylpyrrole	1403	2(10)-Pinen-3-ol
1307	Methyl 2-pyrrolyl ketone	1404	Verbenol
1308	2-Pyridinemethanethiol	1405	7-Methyl-4,4a,5,6-tetrahydro-2(3H)-naphthalenone

1309	2-Acetylpyridine
1310	N-Furfurylpyrrole
1311	2-(2-Methylpropyl)pyridine
1312	3-(2-Methylpropyl)pyridine
1313	2-Pentylpyridine
1314	Pyrrole
1315	3-Ethylpyridine
1316	3-Acetylpyridine
1317	2,6-Dimethylpyridine
1318	5-Ethyl-2-methylpyridine
1319	2-Propionylpyrrole
1320	Methyl nicotinate
1321	2-(3-Phenylpropyl)pyridine
1322	2-Propylpyridine
1323	Camphene
1324	beta-Caryophyllene
1325	p-Cymene
1327	Myrcene
1328	alpha-Phellandrene
1329	alpha-Pinene
1330	beta-Pinene
1331	Terpinolene
1332	Biphenyl
1333	p,alpha-Dimethylstyrene
1334	4-Methylbiphenyl
1335	1-Methylnaphthalene
1336	Bisabolene
1337	Valencene
1338	3,7-Dimethyl-1,3,6-octatriene
1339	p-Mentha-1,3-diene
1340	p-Mentha-1,4-diene
1341	1,3,5-Undecatriene
1342	d-3-Carene
1343	Farnesene (alpha and beta)
1344	1-Methyl-1,3-cyclohexadiene
1345	beta-Bourbonene
1346	Cadinene (mixture of isomers)
1347	Guaiene
1348	Butyl 2-decenoate
1349	2-Decenal
1350	2-Dodecenal
1351	Ethyl acrylate
1352	Ethyl 2-nonynoate
1353	2-Hexenal
1354	2-Hexen-1-ol
1355	2-(E)Hexen-1-yl acetate
1356	Methyl 2-nonynoate
1357	Methyl 2-octynoate
1406	3-Methyl-2-(n-pentanyl)-2-cyclopenten-1-one
1407	Dihydronootkatone
1408	3-L-Menthoxypropane-1,2-diol
1409	beta-Ionyl acetate
1410	alpha-Isomethylionyl acetate
1411	3-(l-Menthoxy)-2-methylpropane-1,2-diol
1412	Bornyl butyrate
1413	D,L-Menthol(+/-)-propylene glycol carbonate
1414	L-Monomenthyl glutarate
1415	L-Menthyl methyl ether
1416	p-Menthane-3,8-diol
1418	beta-Alanine
1419	L-Cysteine
1420	L-Glutamic acid
1421	Glycine
1422	DL-Isoleucine
1423	L-Leucine
1424	DL-Methionine
1425	L-Proline
1426	DL-Valine
1427	DL-(3-Amino-3-carboxypropyl)dimethylsufonium chloride
1428	L-Phenylalanine
1429	L-Aspartic acid
1430	L-Glutamine
1431	L-Histidine
1432	DL-Phenylalanine
1434	L-Tyrosine
1435	Taurine
1437	DL-Alanine
1438	L-Arginine
1439	L-Lysine
1440	2-Hexyl-4-acetoxytetrahydrofuran
1441	2-(3-Phenylpropyl)tetrahydrofuran
1442	Tetrahydrofurfuryl acetate
1443	Tetrahydrofurfuryl alcohol
1444	Tetrahydrofurfuryl butyrate
1445	Tetrahydrofurfuryl propionate
1446	4-Hydroxy-2,5-dimethyl-3(2H)-furanone
1447	Tetrahydrofurfuryl cinnamate
1448	2-Methyltetrahydrofuran-3-one
1449	2-Ethyl-4-hydroxy-5-methyl-3(2H)-furanone
1450	4-Hydroxy-5-methyl-3(2H)-furanone
1451	2,5-Dimethyl-4-methoxy-3(2H)-furanone
1452	2,2-Dimethyl-5-(1-methylpropen-1-yl)tetrahydrofuran
1453	2,5-Diethyltetrahydrofuran
1454	cis,trans-2-Methyl-2-vinyl-5-(2-hydroxy-2- propyl)tetrahydrofuran (Linalool oxide)
1455	5-Isopropenyl-2-methyl-2-vinyltetrahydrofuran (cis and trans mixture)
1456	4-Acetoxy-2,5-dimethyl-3(2H)furanone

1358	Methyl 2-undecynoate	1457	(+/-)-2-(5-Methyl-5-vinyl-tetrahydrofuran-2- yl)propionaldehyde
1359	2-Tridecenal	1458	Ethyl 4-phenylbutyrate
1360	trans-2-Heptenal	1459	beta-Methylphenethyl alcohol
1361	trans-2-Hexenoic acid	1460	2-Methyl-4-phenyl-2-butyl acetate
1362	2-Nonenal	1461	2-Methyl-4-phenyl-2-butyl isobutyrate
1363	2-Octenal	1462	2-Methyl-4-phenylbutyraldehyde
1364	2-Pentenal	1463	3-Methyl-2-phenylbutyraldehyde
1365	trans-2-Nonen-1-ol	1464	Methyl 4-Phenylbutyrate
1366	2-Undecenal	1465	2-Methyl-3-(p-isopropylphenyl)propionaldehyde
1367	trans-2-Octen-1-yl acetate	1466	2-Methyl-3-tolylpropionaldehyde (mixed o-, m-, p-)
1368	trans-2-Octen-1-yl butanoate	1467	2-Phenylpropionaldehyde
1369	cis-2-Nonen-1-ol	1468	2-Phenylpropionaldehyde dimethyl acetal
1370	(E)-2-Octen-1-ol	1469	2-Phenylpropyl butyrate
1371	(E)-2-Butenoic acid	1470	2-Phenylpropyl isobutyrate
1372	(E)-2-Decenoic acid	1471	2-(p-Tolyl)propionaldehyde
1373	(E)-2-Heptenoic acid	1472	5-Methyl-2-phenyl-2-hexenal
1374	(Z)-2-Hexen-1-ol	1473	4-Methyl-2-phenyl-2-pentenal
1375	trans-2-Hexenyl butyrate	1474	2-Phenyl-2-butenal
1376	(E)-2-Hexenyl formate	1475	Ethyl 2-ethyl-3-phenylpropanoate
1377	trans-2-Hexenyl isovalerate	1476	2-Phenyl-4-pentenal
1378	trans-2-Hexenyl propionate	1477	2-Methyl-4-phenyl-2-butanol
1379	trans-2-Hexenyl pentanoate	1478	2-Oxo-3-phenylpropionic acid

CATEGORY II (RECOMMENDED FOR ADOPTION AFTER EDITORIAL CHANGES, INCLUDING TECHNICAL REVISIONS)

FOOD ADDITIVES

Food Additive	Editorial change
Hexose oxidase from *Chondrus crispus* expressed in *Hansenula polymorpha*	Under TESTS, Hexose oxidase activity, Reagents, second line: insert "Adjust the pH to 6.3 with concentrated HCl and add water to bring the total volume of the solution to 1000 mL".
Lutein from *Tagetes erecta*	1. Chemical names: for β, ε -carotene-3,3'-diol read 3R, 3'R,6'R- β,ε-carotene-3,3'-diol 2. Under Characteristics, Identification Spectrophotometry (FNP 5): for "chloroform/ethanol (9:1) solution" read "chloroform/ethanol (1:9) solution"
Poly(vinyl alcohol)	Under Characteristics, Identification, pH (FNP 5): for "(1 in 5)", read "(1 in 25)"

FLAVOURING AGENTS

None

Appendix XVII

LIST OF MAXIMUM LEVELS AND GUIDELINE LEVELS FOR CONTAMINANTS AND TOXINS CONTAINED IN CODEX COMMODITY STANDARDS TO BE DELETED

11 Lead

Commodity		Level mg/kg	Type	Reference	Remarks
Code	Name				
NF 0175	Fruit nectars	0.3	ML	In commodity standards 1981	Apricot, peach and pear nectars Guava nectar Non-pulpy blackcurrant nectar Pulpy nectars of certain small fruits Nectars of certain citrus fruits Liquid pulpy mango nectars Mixed fruit nectars Nectars not covered by other standards
IF 0175	Fruit juices	0.3	ML	In commodity standards 1981	Orange juice Grapefruit juice Apple juice Grape juice Pineapple juice Blackcurrant juice Fruit juices not covered by other standards Concentrated pineapple juice Mixed fruit juices
		1	ML	In commodity standard 1981	Lemon juice
MS 0098	Cooked cured chopped meat	0.5	ML	Codex STAN 98-1981 (Rev.1 1991)	
MS 0096	Cooked cured ham	0.5	ML	Codex STAN 96-1981 (Rev.1 1991)	
MS 0097	Cooked cured pork shoulder	0.5	ML	Codex STAN 97-1981 (Rev.1 1991)	
MS 0088	Corned beef	1	ML	Codex STAN 88-1981 (Rev.1 1991)	
MS 0089	Luncheon meat	0.5	ML	Codex STAN 89-1981 (Rev.1 1991)	

Appendix XVIII

LIST OF INDIVIDUAL CODEX MAXIMUM LEVELS AND GUIDELINE LEVELS FOR CONTAMINANTS AND TOXINS TO BE REVOKED

Reference	Title
CAC/GL 39-2001	Maximum Level for Cadmium in Cereals, Pulses and Legumes
CAC/STAN 230-2001	Lead: Maximum Levels
CAC/GL 7-1991	Guideline Levels for Methylmercury in Fish
CAC/GL 6-1991	Guideline Levels for Vinyl Chloride Monomer and Acrylonitrile in Food and Packaging Material
CAC/STAN 209-1999	Aflatoxins in Peanuts Intended for Further Processing: Maximum Level
CAC/STAN 232-2001	Aflatoxin M1 in Milk: Maximum Level
CAC/STAN 235	Patulin in Apple Juice and Apple Juice Ingredients in other Beverages : Maximum Level
CAC/GL 5-1989	Guideline Levels for Radionuclides in Foods following accidental Nuclear Contamination for use in International Trade

Appendix XIX

PROPOSED DRAFT REVISION OF THE PREAMBLE OF THE CODEX GENERAL STANDARD FOR CONTAMINANTS AND TOXINS IN FOODS

(Project No. N09-2004)

(At Step 5/8)

ANNEX I

CRITERIA FOR THE ESTABLISHMENT OF MAXIMUM LEVELS IN FOODS

Establishment of maximum levels for contaminants

The ***establishment of maximum levels of contaminants in foods*** involves several principles, some of which have already been mentioned. Briefly stated, the following criteria will help in maintaining a consistent policy in this matter:

- MLs shall be set only for those contaminants that present both a significant risk to public health and a known or expected problem in international trade.
- MLs shall be set only for those foods that are significant for the total exposure of the consumer to the contaminant. When identifying the significance of certain foods in the total exposure to the contaminant, the criteria contained in the CCFAC Policy for Exposure Assessment of Contaminants and Toxins in Foods or Food Groups should be consulted (see para. 11 of the "CCFAC Policy for Exposure Assessment of Contaminants and Toxins in Foods" in the Codex Alimentarius Commission Procedural Manual).

Procedure for risk assessment in relation to (proposed) MLs for contaminants

(third paragraph)

For contaminants and natural toxins in food, essentially the same procedure is used. Food consumption patterns with a higher intake of critical foods may be used in the intake calculations when this is part of an accepted national or international health protection and risk management policy. A harmonized approach using an appropriate intake estimation model that is as realistic as possible is recommended. Calculated data should where possible always be compared with measured intake data. Proposals for Codex MLs should be accompanied by intake calculations and risk assessment conclusions regarding their acceptability and use. The intake calculations should follow the methodology described in the CCFAC Policy for Exposure Assessment and, if appropriate, be accompanied by the generation of distribution curves for the concentration in specific foods/food groups (see paras 5-8 and 12-14 of the CCFAC Policy for Exposure Assessment of Contaminants and Toxins in Foods in the Codex Alimentarius Commission Procedural Manual). Statements from Governments about the (non-acceptance of (proposed) Codex MLs should refer to specified intake calculations and risk management conclusions which support this position.

Appendix XX

Project Document

Proposal for New Work on an appendix to the draft 'Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts' to address additional measures for the prevention and reduction of aflatoxins in Brazil nuts.

1. The purposes and scope of the Standard

The draft "Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in tree nuts" provides uniform guidance to control and manage contamination by aflatoxins in tree nuts. The very specific conditions related to the Brazil nut collection and processing requires a specific set of additional measures for the prevention and reduction of aflatoxin in Brazil nuts. The CCFAC agreed at its 37th Session that it would be appropriate to include these additional measures as an appendix to the draft "Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts"

2. **Its relevance and timeliness**

Measures can be taken to prevent and reduce the presence of aflatoxins in Brazil nuts. Aflatoxins are a hazard to human health. A separate appendix to the draft "Code of Practice for the prevention and Reduction of Aflatoxin Contamination in Tree Nuts" is necessary enabling to take into account the very specific conditions related to the Brazil nut collection and processing. By doing so, the effectiveness of the Code to prevent the presence of aflatoxin in Brazil nut will significantly improve.

3. The main aspects to be covered

The appendix will cover additional measures specific to Brazil nut to prevent aflatoxin contamination covering all stages of the production chain (the collection, handling, storage, transport, processing and distribution of Brazil nuts).

4. An assessment against the Criteria for the establishment of work priorities

This proposal is consistent with the following Criteria for the Establishment of Work priorities.

(a) Consumer protection from the point of view of health (by minimizing consumer dietary exposure to aflatoxins from Brazil nuts)

5. Relevance to Codex Strategic objectives

This proposal is consistent with the Strategic Vision statement of the strategic Framework 2003-2007.

6. Information on the relation between the proposal and other existing Codex documents

This new work is proposed by the CCFAC at its 37th Session as an appendix to the Draft "Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts".

7. Identification of any requirement for and availability of expert scientific advice

- Availability of information

* Proposed Draft Code of Practice for the Prevention and Reduction of Aflatoxin Contamination in Tree Nuts (ALINORM 04/27/12 – APP XX) and Comments submitted from Brazil and Venezuela (CX/FAC 05/37/21)

* Discussion Paper on Aflatoxin Contamination in Brazil Nuts (CX/FAC 05/37/24) and comments submitted (CX/FAC 05/37/24 ADD1, CRD 17 Comments from Brazil)

8. Identification of any need for technical input to the standard from external bodies

No need for external input is anticipated

9. The proposed time line for completion of the new work, including the start date, proposed date for adoption at Step 5/8, and the proposed date for adoption by the Commission.

If the Commission approves, in 2005, that the Proposal for this New Work should proceed, then the proposed appendix will be circulated for consideration at Step 3 at the 38th Session of the CCFAC for advancement for adoption at Step 5/8 by the Codex Alimentarius Commission at its subsequent Session.

Appendix XXI

DRAFT CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF AFLATOXIN CONTAMINATION IN TREE NUTS

(AT STEP 8 OF THE PROCEDURE)

INTRODUCTION

1. The elaboration and acceptance of a Code of Practice for tree nuts by Codex will provide uniform guidance for all countries to consider in attempting to control and manage contamination by various mycotoxins, specifically aflatoxins. In order for this Code of Practice to be effective, it will be necessary for the producers and processors in each country to consider the general principles given in the Code, taking into account the agronomic and extractivistic[1] practices associated with the tree nuts produced in their regions, before attempting to implement provisions enumerated in the Code. It is important for producers or extractivists to realize that Good Agricultural Practices (GAP) represent the primary line of defense against contamination of nuts with aflatoxins, followed by the implementation of Good Manufacturing Practices (GMP) Good Extractivistic Practices and Good Storage Practices (GSP) during the handling, processing, storage and distribution of nuts for human consumption. Only by effective control at all stages from the farm through to processing can excellent quality of the final product be assured. However, the complete elimination of mycotoxin contaminated commodities, including tree nuts, is not achievable at this time.

2. This Code of Practice applies to all varieties of tree nuts of commercial and international concern, including almonds (*Prunus amygdalus)*, Brazil nuts (*Bertholletia excelsa)*, cashews (*Anacardium occidentale)*, hazel nuts (*Corylus* spp.), macadamia nuts (*Macadamia* spp.), pecans (*Carya* spp.), pine nuts (*Pinus* spp.), chestnuts (Castanea spp.) , pistachio nuts (*Pistacia* spp.) and walnuts (*Juglans* spp.). It contains general principles for the reduction of aflatoxins in tree nuts that should be sanctioned by national authorities. National authorities should educate producers, extractivists, transporters, storage keepers and other operators of the production chain regarding the practical measures and environmental factors that promote infection and growth of fungi in tree nuts resulting in the production of aflatoxin in orchards or in the forest (areas of extractivism). Emphasis should be placed on the fact that the planting**,** pre-harvest and post-harvest strategies for a particular nut crop depends on the climatic conditions of a particular year, and traditional production, harvesting and processing practices followed in a particular country or region. For Brazil nuts, the specific conditions related to extractivism have to be taken into account. National authorities should also support research on methods and techniques to prevent fungal contamination in the orchard or in the forest and during the harvesting, processing and storage of tree nuts. An important part of this is the understanding of the ecology of *Aspergillus flavus/parasiticus* in connection with tree nuts.

3. Fungi in the *Aspergillus* species are rapidly growing hyaline molds that are common opportunists found in the soil and on decaying matter. Their colonies are usually yellow, yellow-green, yellow-brown, or green; granular, velvety, or cottony; and have a white peripheral apron and a distinct margin.

4. The aflatoxin-producing *Aspergillus* species, and consequently dietary aflatoxin contamination, are ubiquitous in areas of the world with hot humid climates. *Aspergillus flavus/A. parasiticus* cannot grow or produce aflatoxins at water activities less than 0.7; relative humidity below 70% and temperatures below 10ºC..Under stress conditions such as drought or insect infestation, aflatoxin contamination is likely to be high. Improper storage conditions can also lead to aflatoxin contamination after crops have been harvested. Usually, hot humid conditions lead to mould growth on the stored food and to high levels of aflatoxins.

5. Some procedures used to reduce and prevent aflatoxin production include: (1) selection of resistant varieties, if practicable, (2) minimize the presence of insects and other pests in the orchard during the growing phase, (3) minimize physical damage to nuts during harvesting and transportation, and (4) ensure that nuts are properly cleaned, dried and labeled when placed in a storage facility equipped with temperature and moisture controls.

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[1] Brazil Nuts Extractivism: this is the process of collection and primarily handling of Brazil nuts in the Amazon rainforest where Brazil nut trees grow in their natural environment

1. SCOPE

6. This document is intended to provide guidance for all persons involved in producing tree nuts for entry into international trade for human consumption. All tree nuts should be prepared and handled in accordance with general hygienic principles and practices that are pointed out in appropriate sections of the Recommended International Code of Hygienic Practice for Tree Nuts[2], and the Recommended International Code of Practice- General Principles of Food Hygiene[3], which are relevant for all foods being prepared for human consumption. These codes of practice indicate the measures that should be implemented by all persons that have the responsibility for assuring that food is safe and suitable for consumption.

2. RECOMMENDED PRACTICES BASED ON GOOD AGRICULTURAL PRACTICES (GAP) GOOD MANUFACTURING PRACTICES (GMP) AND GOOD STORAGE PRACTICES (GSP)

2.1 CRITERIA FOR ORCHARD SITES OR PICKING SITES

7. Growers should obtain background information concerning the potential orchard site to determine if: (1) the soil composition is ideal to support the growth of the desired tree variety(2) there is adequate drainage of ground water (3) there are any environmental factors inherent to that location (such as wind-, soil- and dust-borne contaminants and pollutants) that might have a negative impact on safety concerns for human foods and (4) there is an available source of water suitable for irrigation and other purposes.

8. Neighboring fields should not be used for plants which are known to be easily infected with *A. flavus/parasiticus* (e.g. maize) and consequently serve as a source of infection (spores spread by winds, insects, etc). Furthermore plants carrying specific insects that damage tree nut kernels, which may be a vector in the infection process, should also be avoided.

9. If the tree nuts are obtained from around cultivation, the picker should ascertain that there are not any environmental factors inherent to that location (such as wind-, soil- and dust-borne contaminants and pollutants) that might have a negative impact on safety concerns for tree nuts.

2.2 PLANTING

10. In designing the layout of the orchard, information concerning plant spacing may be obtained from plant breeders or agricultural personnel. Adequate spacing is necessary so that trucks and equipment needed for spraying trees can be accommodated and that ventilation of the orchard is maintained to reduce the growth of fungi.

11. Where possible and practical, the orchard surface area should be prepared before planting by destroying or removing all debris that may have served, or may potentially serve as substrates for the growth of mycotoxin-producing fungi. If there are areas vulnerable to soil erosion, no-till practices may be required in the interests of soil conservation.

12. Before planting, growers should consult with appropriate plant breeding authorities or tree nursery personnel to ascertain the availability of species that are resistant to various factors (e.g., frost, microbial and fungal diseases) that can have an impact on the safety and quality of nuts produced in the orchard.

13 Growers should be familiar with GAPs associated with the use of formulated fertilizers, manure and other biosolids that may be used to enhance the nutritional state of the soil, without increasing the risks of introducing hazards originating from microbial or fungal sources in the orchard.

14. Growers should consult with local or national authorities to determine insects and other pests that are commonly found in their region that might attack tree nuts causing them to be more susceptible to fungal infections that can lead to aflatoxin production.

15. Growers should take adequate precautions to ensure that human and animal wastes are disposed of in such a manner as not to constitute a public health or hygienic hazard, and take extreme care to protect the products from contamination with these wastes.

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2 Recommended International Code of Hygienic Practice for Tree Nuts, CAC/RCP 6-1972, Codex Alimentarius Volume 5A.

3 Recommended International Code of Practice- General Principles of Food Hygiene, CAC/RCP 1-1969, Rev. 4 (2003), Codex Alimentarius Volume 1A.

2.3 PRE-HARVEST

16. During the growing seasons, roadways near the orchards should be watered or oiled periodically to minimize outbreaks of mites as a result of dusty conditions. Cultivation practices, in the vicinity of the orchard, that might disperse *Aspergillus flavus/A. parasiticus*, and other fungal spores in the soil to aerial parts of trees should be avoided.

17. Pesticides approved for use on tree nuts, including insecticides, fungicides, herbicides, acaricides, and nematocides should be used to minimize damage that might be caused by insects, fungal infections, and other pests in the orchard and adjacent areas. Accurate records of all pesticide applications should be maintained.

18. Irrigation should be implemented in regions with high temperatures and very little rainfall during the growing season to minimize tree stress, however, irrigation water should be prevented from contacting the nuts and foliage.

19. Water used for irrigation and other purposes (e.g., preparation of pesticide sprays) should be of suitable quality, according to the legislation of each country, for the intended use.

20. All equipment and machinery, which is to be used for harvesting, storage and transportation of crops, should not constitute a hazard to health. Before harvest time, all equipment and machinery should be inspected to ascertain that they are clean and in good working condition to avoid contamination of the nuts with soil and other potential hazards.

21. Trade Associations, as well as local and national authorities should take the lead in informing growers of the hazards associated with aflatoxin contamination of tree nuts and how they may practice safe harvesting procedures to reduce the risk of contamination by fungi, microbes and pests.

22. Personnel that will be involved in harvesting nuts should be trained in personal hygienic and sanitary practices that must be implemented in processing facilities throughout the harvesting season.

2.4 HARVEST

23. Harvesting of nuts should begin as soon as practicable after maturation to minimize diseases caused by fungal attack and insect infestation. Some varieties of nuts become contaminated with aflatoxins while still on the tree as a result of insect infestation and hull splitting, therefore, the earlier the harvest, the less chance there is for contamination to occur because there is a greater chance that the outer hull will remain intact to protect the underlying shell from insects and fungal spores. The area under the trees should be cleared of any debris or decayed materials where A. flavus or A. parasiticus might reside.

24. Nuts, harvested by shaking the trees, should ideally be collected by mechanical harvesters with catching frames, or on some type of protective sheets or tarps under the trees to prevent nuts from falling to the ground. In regions where certain varieties of nuts are traditionally harvested by shaking the trees and/or allowing mature nuts to fall freely to the ground for collection by harvesting equipment or by hand, the orchard should not be used for grazing or holding cattle or other animals. If the land has been so used, the land should be worked immediately prior to harvesting (disced, rotilled, soil turned in some manner, or other feasible methods), to lesson the hazard of fecal contamination of tree nuts. In addition, procedures should be in place to ensure their removal as soon as possible to decrease exposure to *Aspergillus flavus/A. parasiticus* spores that may be denser in the air near the ground and associated with plant debris.

25. The nuts, after collection, should be sorted to remove damaged, rotten, empty and rancified nuts, foreign materials, and transported, as soon as possible, to a processing facility for immediate processing (hull removal) in containers (e.g., trucks, conveyers) that are clean, dry, protected against humidity and free of insects and visible fungal growth. High humidities, which are conducive to proliferation of mold and development of mycotoxins, should be avoided to the greatest extent practical. Conveyances for transporting nuts should be constructed of a material that will permit thorough cleaning and maintenance so as not to constitute a source of contamination for tree nuts. If the nuts cannot be transported immediately to a processing facility they should be temporarily stored in a way that will keep them dry and protected from rain, insects, rodents, birds and drainage of ground water.

2.5 POST-HARVEST

26. Nuts remaining on the trees after harvest should be removed during the winter months to reduce the over wintering of various insect populations.

27. Trees should be pruned and, when needed, treated with appropriate pesticides prior to each growing season.

28. The orchard floor or woodland should be cleared of litter and debris from the harvesting operations in order to decrease the colonization of *Aspergillus* fungi in the orchard or woodland.

29. Containers, equipment and machinery that have been used for harvesting operations should be cleaned and stored in a clean location to minimize inadvertent contamination with fungi, chemicals, fertilizers or toxic substances.

30. Harvesting and storage procedures implemented each crop year should be documented by making notes of measurements (e.g., temperature, moisture, and humidity) and any deviation or changes from traditional practices. This information may be useful for explaining the cause(s) of fungal growth and mycotoxin formation during a particular crop year and help to avoid similar mistakes in the future.

2.6 PROCESSING

31. Personnel involved in all stages of tree nut processing should maintain a high degree of personal cleanliness, wear suitable protective clothing, be trained in food hygiene and general sanitation procedures to a level appropriate to the operations they are to perform in the processing facility. A system should be in place to ensure that all personnel remain aware of all precautions necessary to reduce the risk of aflatoxin contamination in the processing operations.

32. Areas where raw materials are going to be received or stored should be physically separated from areas in which final product preparation or packaging is conducted as to preclude contamination of the finished product. The hulling of nuts should be carried out in a location that is separated by partitions from the main processing area of the facility. Care should be taken to ensure that dust-laden air is not introduced into other areas of the facility through a vent system or other openings.

33. Processors should establish good quality control, traceability/product tracing and safety procedures at every step in the processing sequence to avoid cross contamination of aflatoxins between various lots of nuts during processing.

34. Hulling of nuts should begin as soon as possible after harvest. If a short delay in hull removal is anticipated, the nuts should be stored under conditions that will protect them from insects, mites, vermin, domestic animals, fungi, chemicals or microbiological contaminants, debris and dust. If a long delay is anticipated, nuts should be stored under controlled conditions to prevent aflatoxin production. If needed, appropriate fumigation could be used to control insects.

35. Dehulled nuts should be dried as soon as possible; the drying rate and heat intensity should be determined by the intended end use of the final nut product(s). The nuts should be dried to a safe moisture level that corresponds to a water activity, Aw, of less than 0.70 at 25ºC. *Aspergillus flavus/A. parasiticus* cannot grow and produce aflatoxin at water activities less than 0.70. Dehulled nuts that are allowed to sun-dry are at a greater risk of becoming contaminated during the drying process as a result of fungal growth and/or damage by pests.

36. Moisture levels should be checked after drying by taking samples as representative of the lot as possible. Make sure that the equipment needed for moisture measurements is calibrated.

37. Mechanical driers should be available and used to reduce the potential of further aflatoxin contamination in regions where steam or aqueous solutions are traditionally used to facilitate dehulling, and segregation of defective nuts**;** the water used should be of suitable quality for intended use and never recycled.

38. Personnel and equipment used in the hulling/selection/preparation/drying/storage areas of a processing facility should not enter into other areas of the facility; this will reduce the risk of contaminating other areas of the facility. Waste materials should be frequently removed from the working area during operation and adequate waste receptacles should be provided for the removal of the waste..

39. Various visual (manual) and/or electronic sorting techniques should be used to remove foreign materials and nuts with various defects. Nuts should not be used for processing unless they are free from obvious faecal contamination, infestations, decomposition and other defects. Special precautions must be taken to reject insect-damaged or early-split nuts because they are associated with a high risk of aflatoxin contamination.

40. For nut varieties that are traditionally preconditioned with moisture (steam or water of potable quality) to reduce kernel breakage during cracking, the moisture level of the kernels after cracking should be lowered immediately, to a level that will not support the growth of fungi by rapidly circulating dry air through the kernels.

41. The finished processed products (raw, shelled or in-shell, bulk or consumer ready) should be of the appropriate moisture and packaged so as to maintain their quality under normal transportation and storage conditions without significant deterioration by decay, mould, or enzymatic changes.

42. It is desirable that each plant has access to quality control facilities. The amount and type of such control will vary with different nut products as well as the needs of management. Some type of screening or recognized analytical procedure should be used to determine aflatoxin levels and preferable moisture content before products are released from the processing facility.

2.7 TRANSPORT OF PROCESSED NUTS TO STORAGE

43. Transport containers should be clean, dry, and free of visible fungal growth, insects and any contaminated material. The containers should be well constructed to withstand handling abuse without breaking or puncturing, and tightly sealed to prevent any access of dust, fungal spores, insects or other foreign material.

44. The nuts should be transferred from transport containers to the storage facility as soon as practicable. If different lots or sub-lots are transported together, they must be physically separated in a way that will ensure that identification of the lot is maintained. The lots must be indelibly marked with an identification number that can be traced back to the accompanying documentation (identification number of the lot must correspond to the identification number mentioned on the accompanying documents).

2.8 STORAGE

45. Storage facilities should be clean and dry (if possible keep the relative humidity < 70%), well-vented structures that provide protection from rain, entry of rodents and birds, drainage of ground water and have minimum temperature and humidity fluctuations. If possible, temperature should be kept between 0ºC and 10ºC to minimize fungal growth during storage.

46. Good storage practices should be implemented to minimize the levels of insects and fungi in storage facilities. This may include the use of suitable, registered insecticides and fungicides or appropriate alternative methods. Nuts stored in sacks should be placed on pallets which are positioned to allow good ventilation and access.

47. Water activity, which varies with moisture content and temperature, should be carefully controlled during storage. *Aspergillus flavus/A. parasiticus* cannot grow or produce aflatoxins at water activities less than 0.7.

48. Consideration should be given to fumigating nuts as they are removed from storage for export to control any storage pests that may be present and to prevent infestation during shipment.

3. SPECIAL CONDITIONS FOR SPECIFIC NUT SPECIES

3.1 PISTACHIO NUTS

49. Pistachio nuts are exposed to airborne fungal spores while in the field, during harvesting and/or processing. When the nuts are still on the tree, sometimes the outer hull splits when the shell splits open (early-splits) and sometimes the hull is damaged by wind, insects or other pests. If insects or other pest damages the nut shell, then conditions exist for *Aspergillus* spores to invade and grow on the inner kernel and potentially produce aflatoxins.

50. During the growing season, growers should irrigate carefully and in good time to limit early splitting of the outer hull and reduce the risk of aflatoxin contamination. The mature nuts should be harvested early to reduce the chance for contamination since there is a greater chance that the outer hull will remain intact. The nuts should be delivered directly to the plant for hulling and drying within 24 hours of harvest to prevent shell staining.

3.2 BRAZIL NUTS

51. Measures for the prevention and reduction of aflatoxin in Brazil nut are included as a separate appendix to this Code given the very specific conditions related to the Brazil nut collection and processing.

4. A COMPLEMENTARY MANAGEMENT SYSTEM TO CONSIDER IN THE FUTURE

52. The Hazard Analysis Critical Control Point (HACCP) system is a food safety management system that is used to identify and control hazards within the production and processing system. The general principles of HACCP have been described in earlier documents.[4, 5]

53. The HACCP concept is an all-encompassing integrated management system. When properly implemented in the tree nut industry, this system should result in a reduction in the levels of aflatoxins observed in tree nuts. The use of HACCP as a food safety management system has many benefits over other types of management control systems used in some segments of the food industry. In orchards, many factors that influence aflatoxin contamination of tree nuts are environmentally related, such as weather and insects; these are difficult or impossible to control. After harvesting, critical control points may be identified for aflatoxins produced by fungi during storage. For example, a critical control point could be at the end of the drying process and one critical limit would be the moisture content or water activity.

54. Good Agricultural Practices (GAPs), Good Manufacturing Practices (GMPs) and Good Storage Practices (GSPs) are programs that should be in place before attempts are made to establish and implement a HACCP system. A manual on the application of the HACCP system for mycotoxin prevention and control was recently published that included a plan developed for controlling aflatoxins in pistachio nuts in S.W. Asia[6]. It is recommended that tree nut producers, processors and others involved in the tree nut industry review this example, the concepts of which should be applicable to all tree nuts.

55. At the Third International Conference on Mycotoxins, which was held in Tunisia in March 1999, one of the general recommendations was that integrated mycotoxin control programs should incorporate HACCP principles in the control of risks associated with mycotoxin contamination of foods and feeds[7]. The implementation of HACCP principles will minimize aflatoxin contamination through applications of preventive controls to the extent feasible in the production, handling, storage and processing of each tree nut crop. Since all countries may not have the required technical expertise and experience to establish effective integrated mycotoxin management systems, the Food and Agriculture Organization (FAO) has given high priority to the provision of training professionals in developing countries on the HACCP approach and its application.

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4 FAO. 1995. The use of hazard analysis critical control points (HACCP) principles in food control. FAO Food and Nutrition Paper No. 58 Rome.

5 ILSI, 1997. A simple guide to understanding and applying the hazard analysis critical control point concept, ILSI Europe Concise Monograph Series, 2nd edition, ILSI Europe, Brussels.

6 FAO/IAEA training and reference center for food and pesticide control, 2002. Manuel on the Application of the HACCP System in Mycotoxin Prevention and Control. FAO Food and Nutrition Paper No. 73, Rome.

7 FAO. Preventing Mycotoxin Contamination. Food, Nutrition and Agriculture No. 23, 1999. Food and Nutrition Division, FAO, Rome.

APPENDIX

ADDITIONAL MEASURES FOR THE PREVENTION AND REDUCTION OF AFLATOXIN IN BRAZIL NUT

(in preparation)

Appendix XXII

PROPOSED DRAFT MAXIMUM LEVELS FOR TOTAL AFLATOXINS IN UNPROCESSED AND PROCESSED ALMONDS, HAZELNUTS AND PISTACHIOS

Code No.	Food	ML(µg/kg)	Step	Remarks
	Unprocessed Almonds, Hazelnuts and Pistachios	15	5	
	Processed Almonds, Hazelnuts and Pistachios	15	3	

Appendix XXIII

DRAFT MAXIMUM LEVEL FOR LEAD IN FISH

(AT STEP 7 OF THE PROCEDURE)

Code No.	Food	ML(mg/kg)	Step	Remarks
	All fish	0.2 mg/kg	7	

Appendix XXIV

PROPOSED DRAFT MAXIMUM LEVELS FOR TIN

(AT STEP 3 OF THE PROCEDURE)

Code No.	Food	ML(mg/kg)	Step	Remarks
	Canned Beverages	150 mg/kg	Step 3	
	Canned Foods other than Beverages	250 mg/kg	Step 3	

Appendix XXV

DRAFT CODE OF PRACTICE FOR THE PREVENTION AND REDUCTION OF INORGANIC TIN CONTAMINATION IN CANNED FOODS

(AT STEP 8 OF THE PROCEDURE)

INTRODUCTION

HISTORY OF USE OF TIN

1. Tin is a soft, white, lustrous metal with an atomic weight of 118.7 and the chemical symbol Sn after its Latin name, Stannum. It has a relatively low melting point (231.9^{o}C) and is highly resistant to corrosion, which makes it an ideal element for the protective coating of metals. Over 50% of the world's tin production is used for plating steel or other metals.

2. Today some 15 million tonnes of tinplate are produced each year using rapid and highly sophisticated production methods. These methods are able to control steel thicknesses and tin coating masses to within the extremely fine tolerances required for modern can making processes such as high speed welding.

TIN AS PACKAGING FOR CANNED FOOD

3. Tin is used to protect the steel base from corrosion both externally (aerobic conditions) and internally when in contact with foods (anaerobic). Under the anaerobic conditions expected inside an internally plain processed food can, tin will normally behave as the sacrificial anode, dissolving very slowly whilst protecting the steel base from corrosion and creating a reducing environment in the can. It is this mechanism that has enabled the plain tinplate can to maintain its long history and proven track record of providing wholesome food on a year round basis and safe storage for long periods of time.

4. The later development of can linings (lacquers) enabled different types of food products to be satisfactorily packed. For example, some highly pigmented foods (beetroot, berry fruits) have their colours bleached by tin dissolution and are best protected from contact with tin by use of linings. A small number of food products (e.g. sauerkraut) have a different corrosion mechanism, in which the tin does not behave sacrificially and direct corrosion of the steel base can occur. These products should also have the additional protection of an internal lacquer system.

5. The uses of tin have changed considerably over the years. Humans have, however, been exposed to tin for centuries, through the food they eat, with no known negative long term effects. Only limited data is available on the toxicological effects of inorganic tin as present in canned foods, resultant from dissolution of the tin coating. The main potential hazard from acute ingestion seems to be gastric irritation in some individuals from exposure to high levels.

6. Hence the canning industry worldwide and government regulators consider it both desirable and in accordance with good manufacturing practice that measures be adopted to minimise the levels of tin in canned foods, whilst continuing to allow for the functional use of plain tinplate cans.

TECHNOLOGICAL AND COMMERCIAL IMPLICATIONS

7. Metal packaging faces strong competition from glass and plastics. Even with innovations such as easy opening tear top cans, metal containers are below the average growth of marketshare for packaging products.

8. The best solution to prevent or reduce detinning of cans by aggressive foods is internal lacquering. The use of lacquers has permitted the extension of the use of cans to additional products, including highly aggressive ones.

9. The coating thickness greatly affects the performance of the lacquered food can. Non-aggressive products such as apricots and beans require a thickness of 4-6µm while tomato concentrate needs layers of 8-12µm to prevent interaction between the can and its contents.

10. Adhesion is required to prevent reactions between the can and its contents. Currently adhesion is tested by measuring the force required to lift a dry lacquer coating from the metal in a peel test. While this test readily identifies films which are unsuitable there is no guarantee that those which pass would give satisfactory long term results when in contact with specific foods.

11. Toxicologically significant contamination of canned food from tin dissolution may arise as a result of poor manufacturing practices or prolonged/incorrect storage or both.

12. Although lacquering of cans significantly reduces the risk of tinplate corrosion, the use of lacquer coatings is not always practicable or cost effective.

13. It could be argued that "since lined cans are readily available, then why not use them for all canned foods and thus prevent any tin uptake?" There are, however, very valid technical and marketing reasons why some products require to be packed into plain cans.

FLAVOUR AND COLOUR

14. The need for tin dissolution to maintain the desired colour and flavour attributes of products such as asparagus, light coloured fruits and juices and tomato based products has long been established. It is believed that the presence of tin creates a reducing atmosphere in the can preventing undesirable oxidative changes in these products, which would otherwise develop brown discolourations and unacceptable flavours. Such quality loss would severely affect their marketability and sales with significant implications for the canning industry and their suppliers.

15. It is interesting to note that this concept also works in reverse – some highly pigmented foods, such as acidified beetroot and berry fruits, must always be packed into fully lined cans because, apart from their aggressive behaviour towards tin, colour bleaching via tin dissolution can be a significant problem.

CORROSION FACTORS

16. Most of the products normally packed into plain cans are relatively high acid products. In addition to the organoleptic considerations, should these products be packed into lined cans a change of corrosion mechanism would result. For the more aggressive products this would result in a greater tendency for underfilm corrosion/delamination (particularly for tomato products) and to pitting corrosion of the steel base and subsequent implications of potential for perforation failure.

17. The tin level is dependent on a large number of factors, many of which relate to natural variations or occur after the can has left the control of the manufacturer:

CORROSION MECHANISMS

18. With respect to the internal tinplate surface of cans, there are four main corrosion mechanisms:

(i) Normal detinning;

(ii) Rapid detinning;

(iii) Partial detinning; and,

(iv) Pitting.

19. **Normal detinning** is the slow corrosion of the tin coating, and is an essential process in plain cans to provide electrochemical protection to any exposed areas of base steel. This process leads initially to etching of the tinplate and much later to detinning of the surface. Normally, etching should occur evenly over the wetted internal surface of the can; in the first month or so the mirror surface should change to one in which the shape of the individual tin crystals may be seen with the eye. Grey detinned areas should not be evident in cans stored for less than 1.5 –2 years. Under normal detinning conditions tin is anodic to steel and offers complete cathodic protection. Dissolved tin enters into unobtrusive complexes with product constituents. The hydrogen is oxidised by depolarisers or diffuses through the steel wall. This corrosion situation is characteristic of some citric products, stone fruit products and most low-acid products.

20. **Rapid detinning** is caused by the use of plate with a tin coating mass that is too light, or by a product that is intrinsically too corrosive or contains corrosive accelerators. Whilst the tin is sufficiently anodic to protect steel, the electrochemical rate is high, often resulting in hydrogen evolution and early product failure. Nitrate in products with pH less than 6 has been implicated in incidents of rapid detinning. This is one type of mechanism for rapid detinning. The other is 'direct attack on the tin'. During detinning no hydrogen forms, can vacuum remains unchanged. Examples are depolarisers like nitrate, oxygen, and sulphite. Certain azo dyes, anthocyanins, phosphates and dehydroascorbic acid have also been implicated in rapid detinning.

21. **Partial detinning** together with pitting is a rare form of corrosion. Tin is anodic to steel but localised anodes develop on exposed steel causing iron dissolution (pitting). Early failure takes place due to hydrogen swelling or to perforation at the sites of pitting. This mode of corrosion occurs with tinplate with poor corrosion resistance, or in certain products that have high corrosivity, such as prunes and pear nectar.

22. **Pitting** corrosion occurs when the normal tinplate tin/iron couple is reversed and iron becomes anodic to tin. Tinplates containing high arsenic levels can promote pitting corrosion in can products containing corrosion accelerators. Preferential absorption of protective substance onto the tin surface, such as can occur in sauerkraut, leads to pitting. Products formulated with acetic or phosphoric acids have also suffered spoilage losses due to pitting. Perforation and hydrogen swells occur within a year in such products. Products containing copper and nickel residues can promote pitting corrosion. Products containing proteins and associated amino acids can produce sulphur compounds during heating, including mercaptans, sulphide ions and hydrosulphide ions which readily react with tin to cover the metal surface with thin layers of tin sulphides. Tin sulphides films reduce the passivity of the tinplate surface and may promote pitting corrosion of the base steel.

CORROSION INHIBITORS

23. **Passivation** refers to the chemical treatment applied after tin deposition which stabilises the surface characteristics of tinplate by controlling tin oxide formation and growth; two levels of passivation are usually available – cathodic dichromate (CDC) is the higher level and the treatment usually applied

FOOD CHEMISTRY

24. The most obvious influence on internal corrosion in plain tinplate cans is the chemistry of the food product. It should be noted that fruits, vegetables and tomatoes will have significant natural variation in, for example, pH and acid type and concentration, dependent on variety, maturity, time/place/conditions of harvest, soil chemistry and agricultural practices. These are difficult for the canner to control and may ultimately impact on the level of tin uptake by the product.

CORROSION ACCELERATORS

25. The presence of a chemical species with the ability to accept electrons will increase the rate of corrosion. Some products may contain such 'depolarisers' which will accelerate tin dissolution. Good process control by the canners helps to minimize the presence of headspace oxygen and the presence of oxidizing agents like nitrates and sulfites which can accelerate tin dissolution.

STORAGE TEMPERATURE

26. A further significant factor influencing tin levels is the length and temperature of storage subsequent to canning. Tin uptake will increase with time and most products exhibit first order reaction rates where the rate of dissolution doubles for every 10^{o}C rise in temperature.

1. SCOPE

27. Whilst there are other sources of tin exposure in humans, the most common route is via ingestion of inorganic tin from canned foods.

28. This code of practice relates solely to the migration of inorganic tin into foods from the internally plain (i.e. not lacquered) tin coating of tinplate cans.

29. This code of practice is not intended to apply to tin exposure from any other source and is specific to inorganic tin.

30. This code of practice relates to thermally processed canned human foods (including fruit and vegetable juices) which are packed into plain tinplate cans. It is considered that this description covers both:

(i) Hot fill and hold products; and,

(ii) Hot or cold fill and retort products.

31. Dry goods and 100% oil products are not included, because they do not experience tin migration.

2. RECOMMENDED PRACTICES TO MINIMISE TIN UPTAKE BY FOODS PACKED INTO PLAIN TINPLATE CANS

32. There are many factors which may influence the level of product tin uptake in plain tinplate cans. Some are very minor and others, usually specific to the chemistry of the processed food, may have a significant effect on internal can corrosion and product tin dissolution. The recommendations contained below are based on an attempt to identify all of these factors, no matter how minor, and to suggest specific areas where monitoring or other controls would be beneficial.

33. In summary the factors which have been identified can be grouped as follows:

(i) Choice of tin coating mass and passivation level;

(ii) Damage to tin coating or passivation;

(iii) Type of food product, pH and acid content;

(iv) Presence of corrosion accelerators, such as nitrates, in the raw food ingredients;

(v) Presence of sulphur compounds in the food;

(vi) Presence of oxygen within the sealed can;

(vii) Process times and temperatures;

(viii) Storage times and temperatures; and,

(ix) Storage humidity.

2.1 PACKAGING MANUFACTURER

2.1.1 Tinplate Supplier

34. Tinplate customers should state the end use when ordering tinplate. The tinplate supplier should have sufficient expertise to ensure that specifications for the tinplate are appropriate to the stated end use and notify the customer should there be any concerns (e.g. with regard to the passivation level or the requested tin coating mass).

35. The tinplate manufacturer should have quality procedures in place to ensure that every tinplate order conforms to the required standard (e.g. ASTM; ISO etc.). Incorrect tin coating masses or passivation levels could result in abnormal corrosion and increased product tin levels. Low oil levels may lead to abrasive damage to the tin coating during transport and can manufacture.

2.1.2 Can Maker

36. Can makers should approve tinplate suppliers on the basis that each supplier has demonstrated compliance to agreed standards and ordering requirements.

37. The can maker should have sufficient expertise to ensure that the customer's ordering requirements (i.e. passivation and tin coating mass) are appropriate for the end use and should notify the customer of any concerns.

38. The can maker should assist the customer in determining the correct can specification for any new food product or recipe change. Such changes should be tested to ensure that product tin uptakes are not excessive.

39. Machine settings for processes where metal working occurs (e.g. beading) should be such as to minimise damage to the tin coating.

40. If a sidestripe is applied to 3 piece cans then excessive heat should be avoided when curing the stripe.

2.2 THE CANNER

2.2.1 Raw Materials

41. The canner should work closely with the can supplier to ensure an appropriately specified can is supplied for any given application. Procedures should be in place to ensure that cans are supplied to specification.

42. The canner should consult with the can maker to determine the correct specification can for any new product or any recipe change of an existing product. It is extremely important that sufficient pack testing is conducted to gain a thorough knowledge of the corrosion mechanism, likely product tin uptakes and overall suitability of the can specification for the product.

43. Canners should be knowledgeable about the shelf life of all their products with respect to likely tin uptakes. It should be noted that fruits and vegetables in particular may have a significant variation in their chemistry, dependent on variety, maturity, time/place/conditions of harvest, soil chemistry and agricultural practices. These are difficult for the canner to control and may ultimately impact on the level of tin uptake by the product.

44. Quality procedures should be in place to ensure that product batches conform to recipe specification.

45. Particular attention should be paid to the pH of the food and the addition of food acids. It should be recognised that corrosion is pH dependent and that too large a drop in pH may give a significant change in corrosive behaviour and tin uptake. Different food acids (e.g. citric, malic fumaric and acetic) behave in different ways with respect to internal corrosion and any ingredient change from one type of acid to another should be thoroughly tested. Acetic acid is particularly aggressive towards tin.

46. The presence of a chemical species with the ability to accept electrons will increase the rate of the corrosion reaction. Nitrate is a corrosion accelerator and its presence, even at low levels (1mg of NO_3^- will yield nearly 8mg of Sn^{2+}) causes rapid de-tinning. In a 400g can, 10mg of NO_3^- will rapidly react to give approximately 80mg of Sn^{2+} or, in other words, a product tin concentration of 200ppm. In about one year 100 ppm of nitrate will completely de-tin a No. 303 can with an inside coating weight of 11.2 g/m^2. Nitrates originate from over zealous use of fertilizers and some fruits and vegetables can accumulate high levels (e.g. tomatoes and pineapples). It is essential, when nitrates are likely to be a problem that the canned food manufacturer and his suppliers have a system in place to ensure fruits, vegetables and other ingredients are acceptable for use in canning**.**

47. Sulphur residues have also been known to cause corrosion problems in plain tinplate cans. These residues can be of agricultural origin or may have resulted from bleaching or preserving agents used in some ingredients. The canned food manufacturer and his suppliers should again carry out any necessary testing and make sure that the raw materials are fit for purpose.

48. Some foods, especially protein rich meat and fish and, to a lesser extent, vegetables (e.g. peas, beans, corn etc.) contain naturally occurring sulphur compounds. These can react with a plain tinplate surface to give a purple-black stain of tin sulphide. Although the stain is harmless, it may serve to change the passivation of the tinplate surface, which, in turn, could alter the rate of tin uptake. The areas of staining may also be localised – stressed areas such as can beads; contact points with a solid product in a liquid medium; headspace/product line interface. Whilst an overall increase in passivation is more likely to slow tin uptake, localised areas of staining can have a detrimental effect, especially if a corrosion accelerator such as oxygen is also present. Degree of sulphide staining is also influenced by pH, process time and temperature and the presence of certain cations. Al^{3+} and Fe^{3+}, Fe^{2+} ions, found in some treated potable water, act as catalysts for the breakdown of naturally occurring sulphur compounds. Subsequently the presence of these ions increases the rate and severity of sulphide staining. Clearly the canner must have an intimate knowledge of his product; the likely variations that could occur in raw materials and process; and the range of effects that these variations could produce within the can. That knowledge should be used to set controls where necessary and to determine consistent supply.

49. All raw materials from all suppliers should be well documented especially when a supplier is changed or a raw material is obtained from another source or location. In the unlikely event that unexpectedly high product tin levels occur, documentation makes it easier to track back to any specific changes and to take appropriate action.

50. Water quality should be monitored as some water supplies may contain corrosion accelerators such as nitrates.

2.2.2 Processing

51. The canned food manufacturer should take all necessary steps to eliminate oxygen from within the can prior to closing and to ensure an adequate can vacuum. Oxygen is a corrosion accelerator and its presence in a can after closing can lead to early tin dissolution, especially from the headspace area. Oxygen can be present in the interstices of the product and steam exhausting plus a high fill temperature will help its removal. Minimising headspace, whilst still allowing for product expansion, also helps eliminate oxygen. Another control method is closing under vacuum. Steam injection to the headspace must be consistent and controlled. Line stops and delays between filler and closer should be avoided.

52. The primary method used for removing oxygen is closing under vacuum. Steam exhausting is not used as much.

53. Chemical reactions, such as corrosion, are accelerated by increasing temperature. Canners should be aware that excessive processing times at high temperatures may have an effect on advancing tin uptake.

54. Inadequate cooling and drying should be avoided because this means, for a large mass of cans, that they will remain at an elevated temperature for a considerable period of time. Cans should be cooled to 35°-40°C. Cans cooled to a lower temperature may not dry adequately leading to external rusting. Cans that are not adequately cooled can be subject to spoilage by thermophilic bacteria or products may suffer a loss in quality.

2.2.3 Finished Goods Storage

55. Internal can corrosion, like any chemical reaction, is temperature dependent. In general for every 10^{o}C rise in temperature the reaction rate will double. The expected level of tin uptake from a can stored at high temperature (i.e. 40°C) would be significantly higher than from a can stored at lower temperature (i.e. 10°C) for the same period of time. Canned food manufacturers should consider the location of their finished goods storage areas when determining maximum storage times. For example: - what is the likely maximum temperature; are some areas heated more by the sun; how many days per annum at relatively high temperatures etc?

56. Stock control is required to ensure finished canned goods from earlier production dates are used first.

57. Warehousing be done under conditions where the temperature can be controlled. Large swings in temperature can lead to condensation of moisture on the exterior of cans which can lead to rusting.

2.2.4 Other Considerations

58. Can damage should be minimised as this can lead to local areas of de-tinning. For this reason it is preferable to use ink jet coding rather than embossing.

2.3 TRANSPORT AND WAREHOUSING

59. Please refer to paragraphs 56 and 57 in Section 2.2.3 Finished Goods Storage**.**

60. Temperatures encountered during Transport need to be considered if the canned goods are likely to remain at these temperatures for any length of time (i.e. during shipping). If possible, it is preferable to export stock from a more recent production date if high temperatures are likely to be encountered during shipping or at the final destination.

2.4 RETAILER

61. The retailer should maintain correct stock rotation to ensure that shelves are stocked with cans in production date sequence.

2.5 CONSUMER

62. The consumer should choose a storage location for canned foods that is not subject to excessive heat. Cupboards should not be close to ovens or heaters and should preferably not be in direct sunlight.

63. Unused food or juice left in plain tinplate cans may rapidly accumulate tin in the presence of air. It should be transferred immediately to a clean plastic or glass container and stored in the refrigerator.

GLOSSARY OF TERMS

64. This glossary defines the main technical terms used in the preceding code and relates specifically to the tinplate, can making and canning industries.

AEROBIC	presence of oxygen.
ANAEROBIC	absence of oxygen.
ANNEALING	heating process used in tinplate manufacture to soften the steel strip after cold rolling and to impart the required hardness; the process can either be continuous (continuous annealing or CA) or in batches (batch annealing or BA).
BA	see **ANNEALING.**
BEADS; BEADING	corrugations rolled into can walls to give added strength to the can body.
CA	see **ANNEALING.**
CAN LININGS	see **LACQUERS.**
CLOSER	machine used to seal an end onto a can.
CLOSING UNDER VACUUM	applying a vacuum to the closing chamber of the can closer, whilst sealing the end.
CORROSION	chemical action of dissolving the surface of a metal (eg. tin in food medium).
CORROSION ACCELERATOR	chemical species with the ability to accept electrons, which will increase the rate of a corrosion reaction.
CORROSION MECHANISM	specific chemistry of any corrosion reaction; especially for tinplate when 2 metals (tin and iron) are coupled and where one or both has the potential to dissolve.
DETINNING	descriptive of the corrosion process where the internally plain tin coating is slowly dissolved by the food medium; rapid detinning refers to abnormally fast tin dissolution, caused by the presence of corrosion accelerators.
DR TINPLATE	'double reduced' tinplate where a second rolling is used to reduce steel thickness in order to produce a thinner but stronger product.
ELECTROLYTE	substance which dissociates into ions when dissolved in a suitable medium; hence a tin rich electrolyte is used in tinplate manufacture (see **ELETRO-TINNING**); the food in contact with an internally plain can may also be described as an electrolyte.
ELECTROLYTIC TINPLATE	low carbon mild steel strip coated on both top and bottom surfaces with an electrolytic deposition of tin; the deposited tin exists as an alloyed and free tin and has a passivated surface as well as a coating of oil.
ELECTRO-TINNING	act of plating tin from a tin rich electrolyte onto a continuous steel strip to produce electrolytic tinplate.
ELECTRO-PLATING	see **ELECTRO-TINNING.**
EMBOSSING	use of a die to stamp a product code or manufacturing date into a can end
ENVIRONMENT	see **REDUCING ENVIRONMENT.**
FILLER	machine used to automatically fill a can with the desired weight or volume of food.
FILL TEMPERATURE	temperature at which the food is filled into the can.

FOOD ACIDS	organic acids, naturally occurring in foods, especially in fruits and vegetables; also used to impart flavour and to modify the pH of foods.
HEADSPACE	space left in the top of the can after filling and end sealing, in order to allow for product expansion during thermal processing.
HOT FILL AND HOLD	process where a high acid food product (usually juice or liquid) is filled at high temperature, the end sealed and cans held for a period of time before cooling; commercial sterility is achieved without retort processing.
INKJET CODING	use of an ink jet to print a product code or manufacturing date on the can end
INTERNAL CORROSION	corrosion occurring within a food can (see **CORROSION**).
ION	electrically charged (positive or negative) atom or molecule formed by the loss or gain of one or more electrons or by dissolving an electrolyte in a solvent.
LACQUERED TINPLATE	see **LACQUERS.**
LACQUERS	inert organic coatings used to give additional protection to tinplate; usually applied in liquid form and 'cured' at high temperatures.
LININGS	see **LACQUERS.**
PACK TESTING	storage and regular sampling of canned foods under controlled temperature conditions to determine internal corrosion characteristics and potential shelf life.
pH	measure of acidity.
PLAIN CANS	cans made from plain tinplate.
PLAIN TINPLATE	bright tinplate without any additional lacquer coating.
PROCESS TEMPERATURE	see **PROCESS TIME.**
PROCESS TIME	the calculated time at a particular temperature (process temperature) for which a specific can size and food product need to be heated in order to achieve commercial sterility.
PRODUCT LINE	maximum level or height of the product in the can; the headspace is above the product line.
RAPID DETINNING	see **DETINNING.**
REDUCING ENVIRONMENT	conditions expected inside a plain processed food can, whereby the contents are protected from oxidative reactions such as colour change.
RETORTING	method of heating cans, usually under steam pressure, to create internal can temperatures well in excess of 100^{o}C in order to achieve commercial sterility in a shortened period of time; retorts are, in effect, very large pressure cookers.
RETORT PROCESSING	see **RETORTING.**
SACRIFICIAL ANODE	refers to a metal which slowly dissolves in a corrosion reaction and, in so doing, protects a second metal from corrosion (eg. tin behaving as the sacrificial anode to protect the coupled steel base); see also **CORROSION MECHANISM.**
SHELF LIFE	the expected acceptable commercial life of any canned food.

SHELF LIFE TESTING	see **PACK TESTING.**
SIDESTRIPE	thin band of lacquer designed to protect the weld of a can body from corrosion.
STEAM EXHAUSTING	passing filled cans through a tunnel of steam, prior to sealing, to assist in oxygen removal from the product and headspace.
STEEL BASE	low carbon mild steel strip to which the tin coating is electrolytically applied.
STOCK ROTATION	method of ensuring the oldest canned products are identified, removed first from warehouse storage and are first onto the retailers shelf.
SULPHIDE STAINING	where naturally occurring sulphur compounds in foods react with a plain tinplate surface to form a purple-black stain of tin sulphide.
THERMAL PROCESSING	use of any heat process to ensure the commercial sterility of filled cans (see also **HOT FILL AND HOLD** and **RETORTING).**
TIN COATING	See **ELECTROLYTIC TINPLATE.**
TIN COATING MASS	mass of tin, expressed in g/m^2 , which is applied to each side of the steel base; standard coating masses generally range from 2.8 to 11.2g/m^2 in increments of 2.8g/m^2; the internal tin coating mass of plain cans is usually either 8.4 or 11.2g/m^2.
TIN MIGRATION	see **CORROSION** and **DETINNING.**
TINPLATE	see **ELECTROLYTIC TINPLATE.**

Appendix XXVI

DRAFT MAXIMUM LEVELS FOR CADMIUM

(AT STEP 8 OF THE PROCEDURE)

Code No.	Food	ML (mg/kg)	Step	Remarks
GC 0654	Wheat Grain	0.2	8	
VR 0589	Potato	0.1	8	Peeled
VR 0075 VS 0078	Stem and Root Vegetables	0.1	8	Excluding Celeriac and Potato
VL 0053	Leafy Vegetables	0.2	8	
VA 0035 VB 0040 VC 0045 VO 0050	Other Vegetables	0.05	8	Excluding Fungi and Tomatoes

PROPOSED DRAFT MAXIMUM LEVELS FOR CADMIUM

(AT STEP 5 OF THE PROCEDURE)

Code No.	Food	ML (mg/kg)	Step	Remarks
CM 0649	Rice, Polished	0.4	5	
IM 0151 IM 0152	Marine bivalve mollusks Cephalopods	1.0	5	Excluding oysters and scallops Without viscera

Appendix XXVII

Project Document

PROPOSAL FOR NEW WORK ON A CODE OF PRACTICE FOR THE REDUCTION OF CHLOROPROPANOLS DURING THE PRODUCTION OF ACID-HYDROLYSED VEGETABLE PROTEIN (ACID-HVP) AND PRODUCTS THAT CONTAIN ACID-HVP

The purposes and the scope of the standard

To develop a draft Code of Practice for the reduction of chloropropanols in production of acid-hydrolysed vegetable protein (acid-HVP) and products that contain acid hydrolysed vegetable protein with the intention of reducing the concentration of chloropropanols, such as 3-MCPD, in the resulting acid-HVP and acid-HVP containing products. A first draft of the Code of Practice will be written by the United Kingdom, in consultation with other member countries.

Its relevance and timeliness

Conditions that can be controlled during the production of acid-HVP, such as pH, temperature and neutralisation processes, affect the concentration of 3-MCPD and other chloropropanols in the final product. A Code of Practice will provide a means of reducing the concentration of the process contaminants, chloropropanols, which are a hazard to human health. It will carry forward information included in previous discussion papers on chloropropanols.

The main aspects to be covered

The draft Code of Practice will cover the parameters to be controlled during the production of acid-HVP and acid-HVP containing products and the conditions to be adopted for these parameters. In addition, it will contain supporting scientific information to demonstrate the reduction of 3-MCPD achieved by adopting the recommendations in the Code of Practice.

An assessment against the Criteria for the Establishment of Work Priorities

This proposal is consistent with the following Criteria for the Establishment of Work Priorities:

a) Consumer protection from the point of view of health and fraudulent practices. (By reducing consumer dietary exposure to chloropropanols from acid-HVP and associated products).

Relevance to the Codex strategic objectives

This proposal is consistent with the Strategic Vision statement of the Strategic Framework 2003-2007.

Information on the relation between the proposal and other existing Codex documents

This new work is recommended in the Discussion Paper on Chloropropanols (CX/FAC 05/37/25)

Identification of any requirements for and availability of expert scientific advice

The 37th CCFAC recommends a request that JECFA conduct an exposure assessment from all sources.

Identification of any need for technical input to the standard from external bodies so that this can be planned for.

None.

The proposed timeline for completion of the new work, including the start date, the proposed date for adoption at Step 5, and the proposed date for adoption by the Commission; the timeframe for developing a standard should not normally exceed five years.

If the Commission approves, in 2005, that the Proposal for this New Work should proceed, the draft Code of Practice will be circulated for consideration at Step 3 at the 38th Session of the CCFAC. Advancement to Step 5 is planned for 2007 and an additional Session of the CCFAC might be necessary to finalise the revision for adoption at Step 8 by the subsequent Session of the Codex Alimentarius Commission.

Appendix XXVIII

PROPOSED DRAFT MAXIMUM LEVEL FOR 3-MCPD IN LIQUID CONDIMENTS CONTAINING ACID-HYDROLYZED VEGETABLE PROTEIN (EXCLUDING NATURALLY FERMENTED SOY SAUCE)

(N08-2004)

(AT STEP 3 OF THE PROCEDURE)

Code No.	Food	ML (mg/kg)	Step	Remarks
	liquid condiments containing acid-Hydrolyzed vegetable protein (excluding naturally fermented soy sauce)	0.4	3	

Appendix XXIX

PRIORITY LIST OF FOOD ADDITIVES, CONTAMINANTS AND NATURALLY OCCURRING TOXICANTS PROPOSED FOR EVALUATION BY JECFA

	Question(s) to be answered	*Data availability (when, what)*	*Proposed by*
A. Food additives			
Flavours: about 285 compounds[1]	Risk assessment at current use patterns and establishment of specifications; additional compounds to already evaluated groups. Full details to be provided to JECFA secretariat	Available	US
Aluminium from all sources [1]	Toxicity and intake of aluminium from its use in food additives and from other sources, sodium aluminium phosphate included. Exposure assessment on all compounds included in GSFA (US to provide list of all GSFA additives) Availability of new data toxicological data for reviewing current PTWI unknown.	Unknown	CCFAC
Annatto extracts [1]	Re-evaluation of safety; revision of specifications	2006 or 2007	JECFA
Pimaricin [1]	Exposure assessment including new proposed uses	Use data available from US	CCMMP
Titanium dioxide[1]	Revision of specification	US	CCFAC
Zeaxanthin (synthetic) [1]	Revision of specification	Available	CCFAC
Acidified Sodium chlorite	Risk assessment for use in food contact (as processing aid)	Available from US	US
Carrageenan	Toxicological re-evaluation and revision of specifications	SCF evaluation and new toxicological data available	EC
Cyclotetraose	Safety evaluation (use as carrier and stabilizer)	Nov 2005	Switzerland
Lycopene from *Blakeslea trispora*	Safety evaluation and specification	Available from Spain	Spain

	Question(s) to be answered	*Data availability (when, what)*	*Proposed by*
Lycopene (synthetic)	Safety evaluation and specification	Available from Switzerland	Switzerland
Isoamylase from *Pseudomonas amyloderamosa*	Safety evaluation and specification	Available from Switzerland	Switzerland
Processed Euchema seaweed (PES)	Toxicological re-evaluation and revision of specification. (Same INS number with Carrageenan)	SCF evaluation and new toxicological data available	EC
Propyl paraben	Toxicological re-evaluation (previous temporary ADI set by SCF withdrawn and EC considers to withdraw its use as additive because of toxicological concern)	Data from EFSA review available	EC
Sodium Iron EDTA trihydrate	Safety assessment Used for iron fortification (approved in US China, Brazil etc)	Available from US	US
B. Contaminants and naturally occurring toxicants			
Chloropropanols [1]	Formation and co-occurrence of 3-MCPD and 1,3-DCP	September 2004	UK
	Exposure assessment from all sources	Occurrence data: SCOOP report (EC) and Thailand	CCFAC
Methyl mercury[1]	Clarification of current PTWI for population subgroups Assessment of scientific evidence of relevance of direct exposure to infants and small children (prenatal vs. postnatal exposure, including breast feeding) Impact of current MLs on MeHg exposure and risk.	Available from last JECFA evaluation	CCFAC
Ochratoxin A [1]	Toxicological re-evaluation, exposure assessment (special consideration to developing countries), effects of processing on residual levels in foods	End 2004	UK and EC
	Monitoring data from Japan	not earlier than the end of 2005	

	Question(s) to be answered	*Data availability (when, what)*	*Proposed by*
Deoxynivalenol (DON)	Exposure assessment on a more global basis taking new data into account, also review of toxicological data and considering the need for an acute reference dose (taking into account data also on finished products, but also in raw wheat and other commodities as they are traded internationally and consideration of processing factors)	Some new data available Tentatively 2007	CCFAC
Ergot alkaloids	Full evaluation	Not yet available	Canada
Patulin	Exposure assessment (questions to be developed at future sessions based on available data)	2007	CCFAC
Phenyl hydrazines (including agaritine)	Full evaluation, Nordic Council recently evaluated	2004 (available)	Denmark

[1] High priority for evaluation by JECFA