codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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CODEX ALIMENTARIUS COMMISSION

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REPORT OF THE EIGHTEENTH SESSION OF THE CODEX COMMITTEE ON FOOD ADDITIVES

The Hague, 5-11 November 1985

TABLE OF CONTENTS

APPENDICES

ABBREVIATIONS USED IN THE REPORT

ADI	-	Acceptable Daily Intake (mg/kg Body Weight)
CAC	-	Codex Alimentarius Commission
CCCPL	-	Codex Committee on Cereals, Pulses and Legumes
CCFA	-	Codex Committee on Food Additives
CCFH	-	Codex Committee on Food Hygiene
CCFL	-	Codex Committee on Food Labelling
COP	-	Carry Over Principle
FNP	-	Food and Nutrition Paper
GL	-	Guideline Level
HMT	-	HexaMethylene Tetramine
INS	-	International Numbering System
JECFA	-	Joint FAO/WHO Expert Committee on Food Additives
JFCMP	-	Joint FAO/WHO Food Contamination Monitoring Programme
MPL	-	Maximum Permitted Level
NS	-	Not Specified
PMTDI	-	Provisional Maximum Tolerable weekly Intake
WG	-	Working Group

REPORT OF THE EIGHTEENTH SESSION OF THE CODEX COMMITTEE ON FOOD ADDITIVES

The Hague, 5-11 November 1985

INTRODUCTION

1. The Codex Committee on Food Additives held its Eighteenth Session in The Hague, The Netherlands, from 5-11 November, 1985, by courtesy of the Government of the Netherlands. Mr. A. Feberwee (The Netherlands) acted as Chairman. The Session was attended by 190 participants. They represented 37 member and observer countries and 33 International organizations (see Appendix I for the List of Participants, including the Secretariat).

EXTRACT OF THE OPENING SPEECH BY THE STATE SECRETARY OF THE MINISTRY OF AGRICULTURE AND FISHERIES OF THE NETHERLANDS

2. In his welcoming speech the State Secretary, Mr. A. Ploeg, expressed his satisfaction that Spanish was now one of the CCFA official languages and reminded the Committee that it had a few years ago initiated the discussions which indicated the necessity for Codex Activities in the field of "Residues of Veterinary Drugs". This summer the Codex Alimentarius Commission decided to establish a new Codex Committee on Residues of Veterinary Drugs, to be hosted by the USA. Thus the initiative of the CCFA has had the serious follow-up it deserved. He once again emphasized the value the Netherlands, especially because of its large export of agricultural (processed and non-processed products, attached to the work of the Codex Alimentarius Commission in the field of harmonisation of food law. The State Secretary summed up the goals of Codex Alimentarius Commission as "the protection of consumer and the prevention of protectionism in trade" and felt personally attracted by this combination of goals. As potential fields of interest for the Committee in future he noted - besides those which had already been embarked upon such as contaminants in food, food additives and contaminants intake studies and processing aids - work on artificial sweeteners. "Without denying the benefits of such additives, for instance in the field of low-calorie products, it is clear that safety - in relation to intake (also for children) of these additives will necessitate further work", he added.

APPOINTMENT OF RAPPORTEURS

3. Mr. R. Ronk (USA) was appointed as rapporteur. The Committee agreed with the proposal of the Chairman not to appoint a French and Spanish rapporteur due to the fact that qualified expertise from FAO was present at this Session.

ADOPTION OF THE AGENDA

4. The Committee adopted the provisional agenda (CX/FA 85/1) without any changes.

5. The delegation of Argentina took the opportunity to express its great satisfaction and gratitude of the fact that the Committee had included Spanish as one of the official languages. It was of the opinion that the future work of the Spanish speaking countries will be very much enhanced in this way.

CONSIDERATION OF THE REPORTS OF JECFA

6. The twenty-eighth report of the Joint FAO/WHO Expert Committee on Food Additives (JECFA) was introduced by the Joint Secretariat of the Expert Committee (Dr.

G. Vettorazzi, WHO, and Dr. W.A. Randell, FAO). It was noted that the report, published as WHO Technical Report Series No. 710, should be considered together with the toxicological monographs (WHO Food Additives Series N2 19) and the specifications of identity and purity for the additives considered at the 28th meeting (FAO Food and Nutrition Paper N2 31/1 and 31/2).

7. It was noted that the JECFA had considered a number of substances which had been recommended by the Committee at its previous sessions, and among these had considered four specific substances which may migrate into foods from plastic materials used in food packaging. At the request of the Committee, JECFA had also reviewed its previous evaluation of 2-nitropropane, and had concluded that this solvent was temporarily acceptable for use as a fractionating solvent in the production of fats and oils as long as its use continued to be limited and residue levels were kept to the lowest levels technologically attainable. The JECFA had also re-evaluated the specifications of all previously considered food colours. As a result of this review the JECFA has withdrawn 35 specifications for substances which were apparently not used commercially for colouring food, or for which no information had been received concerning their food use. It was noted that specifications for anthocyanin colours from sources other than grape skin extract would again be reviewed by JECFA at its 30th meeting in 1986.

8. The Committee was also informed that a review and updating of the principles for the testing and assessing of the safety of chemicals in food, initiated at the request of previous JECFAs, was underway and that a draft document had been discussed at both the 28th and 29th JECFA meetings. It was hoped that this review could be finilzed by the 30th Meeting (1986) and issued to Governments in the WHO Technical Report Series. JECFA had also reaffirmed its previous recommendation that specific problems identified by the Committee be brought regularly to its attention, taking into account the availability of data.

9. The Committee had also before it document CX/FA 85/15 containing a summary of the report and conclusions of the 29th Meeting of JECFA (1985). The summary was prepared to provide early information to Governments and interested international organizations of the outcome of the JECFA meeting, and in particular to indicate the nature of the data required for the completion of evaluations where tentative acceptable daily intakes (ADIs) have been allocated.

10. The Commitee noted that a number of substances considered by JECFA at both the 28th and 29th meetings could not be evaluated because of the evidence that the substances were not actually used commercially in food, or of food-grade quality. Many of these substances had been taken from the priority list established by the Committee. The Committee confirmed its previous view that substances considered for inclusion in the Priority List should have known commercial use in foods.

11. In discussing the reports of the 28th and 29th Meetings of JECFA, the delegation of the Philippines requested information on the status of semi-refined carrageenan, and was informed that the revised specification for carrageenan excluded the semi-refined product because the toxicological data was inadequate. It was noted that semi-refined carrageenan were included on the list of substances scheduled for evaluation by the 30th Meeting of JECFA (1986). The delegation of the Philippines agreed to submit additional toxicological data to the JECFA.

12. The delegation of Sweden noted that JECFA had requested the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk

Products to supply further information on the use of sodium thiocyanate in milk before proceeding to a final evaluation. Since it would not be possible for that Committee to respond to JECFA's request before the 30th Meeting, it was highly likely that this substance, together with hydrogen peroxide, would be considered jointly in 1987.

13. The delegation of the Netherlands raised the question of the status of the specifications prepared by JECFA, particularly in view of the subsequent consideration of these specifications by the Committee and their final endorsement by the Commission as Codex Advisory Specifications, often with editorial amendments. The delegation supported the publication of the Codex Advisory' Specifications and in order to prevent confusion with the JECFA specifications, proposed that the JECFA specifications should be distributed only as working documents for this Committee.

14. It was noted that the procedures adopted by the Commission and JECFA for the consideration of specifications had been devised in order to prevent unnecessary republishing of the specifications and to avoid the situation where two sets of different specifications would be published. It was also noted that the specifications prepared by an individual JECFA meeting related to the evaluation of the substances made at that meeting and that Codex Advisory Specifications were made by reference to the JECFA specifications (Procedural Manual, 5th ed., pp. 41-42). In view of the support expressed by several delegations that the Codex Advisory Specifications should be published separately in a uniform volume, preferably as loose leaf, the Committee agreed to refer the matter to the Executive Committee and the Commission for further guidance (see also Paras. 198-199)

15. In referring to the summary report of the 29th meeting of JECFA, the delegations of Austria and Finland requested information of the status of tartrazine (a food colour) and maltitol (an artificial sweetener) respectively. The delegation of the United States of America drew attention to the necessity of the early publication of the reports, monographs and specifications from each JECFA meeting, in order to allow governments and industry to gather sufficient information to respond to requests for further data and the Committee endorsed the view. The representative of WHO stressed that, where ADIs were indicated as "not allotted" the relevant notes in the reports of JECFA should be consulted in order to obtain information on the reasons for an ADI not having been allotted.

16. The delegation of Australia drew attention to the publication of the FAO/WHO Food Additives Data System (FAO Food and Nutrition Paper N2 30, 1984) and stressed its importance and usefulness. The Committee endorsed this view, and welcomed the publicacion of the revised and corrected edition expected to be made available before the end of 1985. The delegation also proposed that the terminology (nomenclature) for food additives used by JECFA and reproduced in Food and Nutrition Paper N2 30, should be used as a basis for the other lists of food additives prepared by the Codex Alimentarius Commission.

MATTERS OF INTEREST ARISING FROM CODEX SESSIONS

17. The Committee had before it documents CX/FA 85/4 and CX/FA 85/4 - Add.1 (Room document) on the above subject. The Committee noted that a number of matters of interest reported in the document would be discussed under other agenda items and agreed to defer discussions on them until the particular agenda items were presented.

GUIDELINDES FOR CAN MANUFACTURERS AND FOOD CANNERS

18. The Committee noted that a publication entitled "Guidelines for Can Manufacturers and Food Canners" which was intended to assist food processors in developing countries to control lead and tin contamination in canned processed foods had been prepared and would be available by early 1986. The Committee agreed to bring the attention of all the developing countries to the availability of the publication.

FOOD PACKAGING - HEALTH AND TRADE PROBLEMS AND THE ROLE OF CODEX ALIMENTARIUS COMMISSION

19. The Committee noted that the Commission agreed that the Codex Committee on Food Additives was the appropriate forum for dealing with the problems of food packaging materials and that the CCFA should consider the paper prepared by the consultant and report on the subject to the next session of the Commission. The Committee deferred discussion of the subject to agenda item 15.

MATTERS ARISING FROM CODEX COMMITTEES: JOINT ECE/CODEX ALIMENTARIUS GROUP OF EXPERTS ON STANDARDIZATION OF FRUIT JUICES (ALINORM 85/14)

20. The Group of Experts on Fruit Juices at its 16th Session agreed to refer the subject of aseptic packaging of fruit juices and pulps and the potential problem of contamination through the use of chlorine, hydrogen peroxide, iodophors or other sanitizers to the CCFA and CCFH.

21. The Committee learned that the Codex Committee on Food Hygiene had considered the subject at its 20th Session and agreed to elaborate a Code of practice on "Aseptic packaging". The Committee agreed to await the developments and discuss the subject at its next session.

OTHER MATTERS

22. The Committee was informed that Codex Alimentarius Volumes XIV, XV and XVII pertaining to Food Additives, Food Irradiation and Contaminants respectively have been published and can be obtained from Codex Contact points.

CONSIDERATION OF FOOD ADDITIVE INTAKE

23. The report of the Working Group on Food Additive Intake was introduced by the Chairman of the WG, Mr. Fondu. The Committee noted that the WG had taken into consideration documents CX/FA 85/5; CX/FA 85/5a and CX/FA 85/5b, during its deliberations. The report of the WG is attached as Appendix II to this report.

Tin in Canned Foods

24. In response to a question from Australia on the nature of the document on can manufacturing, the Secretariat pointed out that the "Guidelines for Can Manufacturers and Food Canners" would be available to Governments early 1986. The document is an FAO publication intended for developing countries interested in trying to reduce tin and lead contamination arising from food canning. Aspects of corrosion control, methods of examination, etc. will be dealt with in the document.

25. The CCFA requested JECFA to provide clarification of the information, presented in its 26th report that about 200 mg/kg tin results in acute effects such as gastric irritation as well as the health significance of the 200 mg/kg threshold level in relation to setting maximum levels of tin in food. As pointed out by the Working Group and the delegation

of Algeria, information was also needed from JECFA on the chemical form of the tin which causes gastric irritation.

26. Intake levels submitted by several countries indicted that, at present, intake of tin was well below the provisional maximum tolerable daily intake (PMTDI) of 2.0 mg/kg body weight. However, it was noted that the potential daily intake from canned beverages, would exceed the PMTDI, if levels of tin of 250 mg/kg were present in this type of food. Therefore, the WG had requested information on the actual levels of tin in canned beverages.

27. The delegation of India pointed out that use of a body weight of 50 kg would be more appropriate in intake calculations in his country. The delegate from Austria pointed out that JECFA had recommended that the lowest technologically feasible level of tin in food should be the aim of all food manufacturers. The delegation of Canada pointed out that at levels of tin higher than 10 mg/kg food, the tin intake of children could exceed the PMTDI.

28. The Committee noted that the WG had recommended Guideline levels for tin in groups of food for the guidance of Governments. These levels which would indicate when action should be taken to investigate the source of contamination in order to prevent any hazard to the consumer. The guideline levels were not intended as legal limits for the acceptance of rejection of food.

29. The delegations of the USA and Australia requested clarification on the roles of the Working Group on Contaminants and of the Working Group on Intake. The Chairman of CCFA pointed out that some overlap of function could exist; however, in principle the WG on Intake generated and evaluated data on intakes of food additives and contaminants, while the WG on contaminants proposed limits mainly for environmental contaminants.

30. It was agreed that the recommended guidelines on tin from the WG on Intake should be referred to the Working Group on Contaminants for appropriate action in setting limits for contaminants in food. Additional data on levels of tin in food especially in beverages (beer, soft drinks, juices) should be requested from Governments through a circular letter. As suggested by New Zealand, information should also be requested on the age of the cans analyzed, as well as whether they were lacquered or unlacquered.

31. The delegate from Austria was of the opinion that a maximum guideline level of 200 mg/kg tin for a list of specific foods in the WG report should read "must be acceptable" rather than "can be acceptable", as presently drafted.

Intake of lead and cadmium by infants and children

32. The Committee considered a suggestion of the Working Group that JECFA be requested to consider the risk of high intake of lead and cadmium by infants and children and that Governments should be requested to send their data to the Joint FAO/WHO Food Contamination Monitoring Programme (JFCMP).

33. The Chairman of the WG was of the opinion that the Codex Committee on Foods for Special Dietary Uses should set maximum levels for contaminants in foods for infants and children and that the Committee on Milk and Milk Products should do the same due to preferential consumption of those foodstuffs by infants and children.

34. The Committee agreed to consider the question of maximum levels later during the session and to request JECFA to consider the problem of lead and cadmium intake

by infants and children on the basis of available information. Governments were requested to send appropriate data to JECFA.

Intake of Benzoic Acid

35. The Committee noted the conclusions of the Working Group that provided, use levels of benzoic acid in soft drinks remain below 300-400 mg/l, there seemed to be no likelihood of the ADI being exceeded. CCFA agreed that the use of Codex maximum levels for benzoic acid by Governments in their potential intake calculations would be a useful exercise to determine what effect the acceptance of Codex maximum levels would have on estimates of intake.

Annatto and Curcumin

36. The Committee noted that there was a need for a uniform expression of annatto in terms of bixin/norbixin. As regards the recommendation by the Working Group that 10 mg/kg bixin/norbixin was acceptable, it was noted that this referred to acceptability of bixin/norbixin at that level in several foods and did not refer to a technologically appropriate level in particular foods.

37. The Committee noted that, while curcumin was a well defined product, there were other sources of this colouring principle (e.g. turmeric used as a spice or as a food colour). The Committee was informed that JECFA would be considering oleoresin of turmeric as a food colour and this question would be discussed at that time.

Residues of Sulfurdioxide

38. The Committee noted that JECFA would in 1986 be considering all the questions raised by the WG, i.e. possible sensitivity to SO_2, the fact that groups of populations regularly exceeded the ADI and the toxicological relevance of the various forms of SO_2. The delegation of China was of the opinion that, from an analytical point of view, there was not much difference between free and bound SO_2.

39. Regarding the question of whether the practice of bleaching dried fruit which leaves very high residues of SO_2 in the food was good manufacturing practice, the Committee decided to refer the existing Codex maximum level in raisins to the Codex Committee on Processed Fruits and Vegetables for their opinion and the technological justification for this practice and possible amendment of the provision for SO_2. It was also agreed to reevaluate this decision when the views of JECFA and the CCFFV are available.

Polyglycerol Polyricinoleate (PGPR)

40. The Committee noted that the WG had been requested to look into the intake of PGPR following endorsement of this emulsifier in minarine (para 84, ALINORM 83/12A). The WG concluded that there were no national authorizations of this additive in minarine. The Committee did not withdraw the endorsement of PGPR in minarine.

Artificial Sweeteners

41. It was noted that the situation concerning authorizations of the various artificial sweeteners was changing and that this made it necessary for a continuation of the assessment of the intake of artificial sweeteners.

42. The Committee agreed with the proposal of the Working Group that Governments should be requested by means of a circular letter to provide information on the intake and national legislations of artificial sweeteners.

Different Chemical Forms of Additives and Contaminants

43. The Committee referred the conclusions of the WG concerning organo-metal compounds to the WG on Priorities.

Xanthan Gum

44. The WG considered the intake of Xanthan gum in relation to a proposed maximum level of 8 g/kg in cheese products, in combination with other thickeners. On the basis of information received from Governments and MARINALG the WG recommended that a maximum level of 5 g/kg for Xanthan gum in the mixture of thickeners should be considered. The Committee decided to refer this view of the WG to the Committee of Government Experts on Milk and Milk Products.

Other Thickeners

45. The Committee noted that France had requested from the WG guidance from JECFA on the effects of thickeners on gut flora and on the absorption of nutrients. It was agreed that France should refer the problem to JECFA specifying which thickeners were involved as well as information on their potential intakes.

Guidelines for a simple evaluation of Food Additive Intake

46. The Committee agreed with the suggestion of the Working Group that Guidelines on a simple approach to estimating food additive intake be developed in so far as possible to assist developing countries. The guidelines would be developed by Thailand, Belgium, USA, India and WHO for the next session of the Working Group.

Intake of Glutamates

47. The WG had discussed a communication from the IOCU concerning possible intake of glutamates in certain countries. The WG had concluded that countries where it is determined this is the case should approach JECFA in order to obtain advice concerning the health significance of exceeding the ADI. Intake figures available to the WG indicated that the ADI would not be exceeded where glutamates were restricted to use in manufactured foods.

48. It was suggested that high glutamate intake might result from the use of glutamates in seasonings used in the preparation of food and that the use of MSG as a carrier for Vitamin A was likely to lead to an increase of the consumption of this additive.

49. It was agreed that this matter be brought to the attention of the Coordinating Committee for Asia. It was also agreed that there was a need for estimates of intake of glutamates. In this respect the Committee suggested that a survey on dietary intake might be carried out on glutamates and on other food additives of interest to Asia. The delegation of USA offered to assist in the survey.

50. The Committee, noting the remarks of the delegate from the Ivory Coast, agreed to refer the question of the need for food additive intake studies to the Coordinating Committee for Africa.

Establishment of a Working Group on Food Additive Intake

51. The Committee reappointed Mr. M. Fondu (Belgium) as Chairman of the Working Group. The following countries and organizations indicated their interest to participate in the Working Group: Belgium, Canada, Cuba, Denmark, Finland, Fed. Rep. of Germany, India, Israel, Italy, Japan, Norway, Switzerland, The Netherlands, Thailand, U.K., USA, EEC, CIAA, MARINALG, IGTC, ISA, Int. Food Additives Council, FAO and WHO. The

Chairman of the Committee suggested that the Chairman of the WG on Contaminants should, if possible, also attend the Working Group. Governments were requested to restrict the number of their delegations to Working Groups to one or two persons for practical reasons.

INTOLERANCE TO FOOD ADDITIVES

52. The Committee had before it a working paper (CX/FA 85/5-Add.1) prepared by Sweden. In introducing the paper the delegation Of Sweden indicated that while there was much information on adverse reactions from case reports and provocation tests for adverse reactions, there was a lack of reliable data on the incidence of such reactions. The paper proposed three alternative ways of handling intolerance to food additives:

1. by requiring that each additive be declared on the label of prepackaged foods with its name or a code number,
2. by restricting the use of the additive to certain foods or groups with its name or a code number,
3. by prohibiting the use of the additive concerned altogether.

It was noted that the approach selected would depend on the nature of the additive, the frequency of the adverse reactions and the effectiveness of the labelling policy that is adopted in each country.

53. The Committee had detailed discussions on the various approaches followed by countries and it appeared that most countries attached importance to the declaration of food additives on the label. This allowed the consumer to avoid foods containing additives to which they were sensitive. It was also pointed out that labelling of food ingredients would be useful in relation to hypersensitivity to certain food ingredients. Some delegations indicated that they also restricted the use of food additives which could be associated with intolerance. Some delegations indicated that their country followed option 3 above since food additive regulations had to protect all consumers including those that were hypersensitive or allergic to food additives.

54. The representative of the IOCU pointed out that labelling did not take care of additives carried over into food from their use in animal feeds, processing or from raw materials as these were exempt from label declaration. Other delegations supported this view.

55. The delegation of Australia suggested that a data bank of food additives and natural food components associated with intolerance or allergenicity should be established for the medical profession. In answer to this question the secretariat pointed out that establishing such a list of natural food components did not seem to be a task of the CCFA. The representative of WHO indicated that the problem of hypersensitivity to certain foods and food additives had been discussed in a number of JECFA meetings. JECFA agreed to provide CCFA with a summary of the problem.

56. The Committee decided not to proceed with the elaboration of a list of food additives and food components such as suggested by the delegation of Australia.

57. As regards the approach to be used in dealing with the question of intolerance, the Committee favoured options 1 and 2 above. However, the delegation of Austria could not support this decision, expressing preference for option 3. Also the delegation of Finland wished to retain option 3 in addition to options 1 and 2. The delegation of Italy wished to have a declaration of the additives associated with hypersensitivity by name

rather than by code and the delegation of France suggested that labels should bear an indiction of the potential for intolerance.

58. In discussing how to handle azo-dyes in the light of the approach adopted by the Committee, the delegations of Austria, and India expressed their concern on the use of these colours in food. The delegation of Sweden reiterated its objection to the use of azo-dyes in staple foods but was of the opinion that azo-dyes did not represent a special problem of intolerance which should be treated differently from the Committee's decision on food additives in general. He pointed out that additives such as benzoates also exhibited intolerance. The Committee agreed not to treat azo-dyes separately.

59. In discussing the question of how to handle food additives carried over into food products (i.e. not required to be declared on the label), the delegation of the USA suggested that this would have to be undertaken on a case-by-case basis. For example a minimum analytical level could be specified for individual problem additives, above which a label declaration would be mandatory. Results of epidemiological studies could be used to set the appropriate levels at which labelling is required. The Committee accepted the offer of the USA to provide information on sulfites to JECFA so that the labelling of these additives could be considered by the CCFA.

ENDORSEMENT OF FOOD ADDITIVE PROVISIONS IN CODEX STANDARDS

60. The Committee had before it documents CX/FA 85/10, Part I, Part I-Add. 1, Part I- Annex II and Part I-Add. 2. The decisions of the Committee concerning the endorsement, temporary endorsement or postponement of the endorsement of food additive provisions are indicated in Appendix III (Part I) to this report.

1. International Olive Oil Council (IOOC)

Revision of the Codex Standard for Table Olives (ALINORM 85/33, Appendix III)

61. The Committee only discussed those provisions which were not already endorsed previously and which were not contained in the existing standard. The delegation of France expressed reservation on the use of benzoic acid, sorbates and sulfites in table olives.

Sulfites

62. The Fed. Rep. of Germany was opposed to the use of sulfites, in table olives since this delegation felt there was no technological need. Many delegations shared this point of view (see also para. 61). The Committee reflected on the technological justification provided in the Annex I of the document but noted that there was an inconsistency between this information and the position of several producing countries as expressed at this meeting and on that basis decided to postpone the endorsement of this provision, requesting more information from the IOOC.

Tartaric Acid

63. The JECFA Secretariat informed the Committee that the only form of tartaric acid, evaluated by JECFA is the L(+) form.

Ferrous Lactate

64. The Committee postponed the endorsement since this substance has not been evaluated by JECFA.

Extracts of Aromatic Herbs

65. The Committee noted the Secretariat's comment on this provision, stating that some plants were unsuitable as a source of natural flavours and therefore proposed to change the title of this provision into "Natural flavours as defined in the Codex Alimentarius". The Committee agreed that such a provision could be temporarily endorsed.

Thickening Agents

66. The Committee postponed the endorsement of sodium-alginate and xanthan gum, since an ADI exists for these substances and therefore a maximum level has to be set. Sodium alginate and xanthan gum have an ADI of 0-25 and 0-10 respectively.

67. The Committee noted that carrageenan now has an ADI of N.S. and that the specification includes the sodium and potassium salts. The Committee endorsed this provision.

Firming agents

68. The Committee noted that the maximum level proposed should read 1.5 g/kg instead of 15 g/kg as presented in the document. The Committee endorsed the provisions on firming agents.

Processing Aids

69. The Committee agreed with the Secretariat and Germany F. R. that sodium hydroxide and hydrochloric acid could not be regarded as processing aids, since they were not removed from the food in many instances. The Committee therefore decided to endorse these substances as food additives.

70. The Committee discussed the need to specify in the provision for "cultures of microorganism" the specific cultures used. The Secretariat was of the opinion that the Committee should not embark on specifying the types of cultures. However, in this case, the Secretariat recommended the title "cultures of lactic microorganism". The Committee endorsed the recommendation.

2. Codex Committee on Cereals, Pulses and Legumes

Draft Standard for Wheat Flour (ALINORM 85/29, Appendix II)

Enzymes

71. The Committee postponed the endorsement of the provisions for fungal amylase and proteolytic enzymes from Aspergillus oryzae pending a future evaluation by JECFA. Both the enzymes were considered by the 15th Meeting of JECFA which did not clear them toxicologically. The Committee, however, decided to consider the inclusion of these enzymes on the Priority List when treating agenda item 15.

L-Ascorbic Acid and its Na and K salts

72. The Committee noted that the ADI for these substances has been changed from 0-15 mg/kg to NS. The Committee endorsed this provision at a level of 300 mg/kg.

Azo Dicarbonamide and Potassium Bromate

73. The Secretariat reminded the Committee that it had previously postponed the endorsement of these provisions because a number of delegations were opposed to the use of flour treatment agents. The Committee maintained its objectios and did not

endorse these provisions, since it felt that there was no technological need for these substances. However, there was appreciation for the comments made by New Zealand, which were supported by the UK, Canada and the USA that the use of different types of wheat for baking purposes may necessitate the use of these additives. The Committee was of the opinion that CCCPL be requested to reconsider these food additives in relation to their technological need in products for which they are intended.

Mono-Calcium-Phosphate

74. The Committee postponed the endorsement of this provision since it was of the opinion that the proposed maximum level was high and that the ADI might be exceeded.

Bleaching Agents

75. The Committee noted the discussion in the Codex Committee on Cereals, Pulses and Legumes on this provision. It was informed by the Chairman of the WG on Processing Aids that this WG had discussed the question about whether these substances should be considered as processing aids, as suggested by CCCPL or as food additives. The WG was of the opinion that since bleaching is a continuous function bleaching agents should be considered as food additives. The Committee agreed with the WG and confirmed its former position deciding to postpone the endorsement of these provisions.

76. However, it decided also to request the Commodity Committee to specify the specific categories of flour for which the use of bleaching agents are suggested, and to reconsider the proposed level for benzoyl peroxide since this level exceeds the level as proposed by JECFA.

COORDINATING COMMITTEE FOR EUROPE

Draft standard for Vineger (ALINORM 85/19, Appndix II)

77. The Committee endorsed the proposed food additive provisions in this standard. The Committee also decided to inform CCE that Caramel colour for ammonia process has been renamed by JECFA as Caramel III.

CODEX COMMITTEE ON FOODS FOR SPECIAL DIETARY USE

Draft Standard for Follow-up Foods for Older Infants and Young Children (ALINORM 85/28, Appendix IV)

78. The Committee had a lengthy discussion on the provisions in this standard. The Committee considered Annex II to the document providing the technological information on the proposed provisions. It questioned the status of this document. It noted that the document was not received in time to be considered by the Committee. The Committee was of the opinion that the document was not ready for discussion and that as a consequence proper technological information was not available. Therefore, it postponed the endorsement of these provisions and referred the matter back to the appropriate CCFSDU.

79. The delegations of Denmark, India, Argentina, Austria and Finland were opposed to all the additive provisions in the standard. The delegations of Norway and New Zealand emphasized that in addition they were against the whole standard as such. The delegation of Switzerland pointed out that although a number of countries were opposed to this standard, other countries had a different opinion and the product is on their market. Therefore food additive provisions should be elaborated.

ECE/CODEX GROUP OF EXPERTS ON STADARDIZATION OF FRUIT JUICES

Draft General Standard for Fruit Nectars preserved exclusively by physical means not covered by individual standards (ALINORM 85/14, Appendix

80. The Committee endorsed the proposed food additive provisions in this standard.

CODEX COMMITTEE ON PROCESSED FOODS AND VEGETABLES

Draft Standard for Canned Palmito (ALINORM 85/20, Appendix

Stannous Chloride

81. The Committee endorsed the provision for stannous chloride with a reservation of the delegation of France. The delegation of Belgium drew the attention of the Committee to the fact that although stannous chloride has an ADI "NS", there exists also an ADI for tin of 2 mg/kg.[1] The Committee recognized that JECFA has established two separate ADIs on this point and will bring this to the attention of JECFA.

[1] Note from the Secretariat: The information available to the Committee was later found to be incorrect The ADI of Stannous Chloride is included in the MTDI for tin.

Sodium Metabisulfite

82. The Committee had an extensive discussion on this provision. It disagreed with the view of the Commodity Committee that the substance should be considered as a processing aid in the Standard. Several delegations opposed the use of sodium metabisulfite in canned palmito. The delegation of Australia, however, was of the opinion that the product was important in international trade, and that the proposed level was a very low one. Therefore, in view of this, the provision should be endorsed.

83. The Committee decided that since the proposed level was low and since the food was not considered as a staple food the provision should be endorsed as a food additive in the standard. The delegation of Austria was opposed to the endorsement and indicated that a level of 20 mg/kg was not low.

Technological Justification for the use of hexamethylene tetramine (HMT) in Preparation of Provolone Cheese

84. The observer from IDF informed the Committee that the document CX/FA 85/10, Part I-Annex III, was prepared by the Italian delegation, but had not received the formal approval of IDF.

85. The delegation of Switzerland questioned the use of HMT and reminded the Committee of previous evaluations of JECFA of this substance. At its 6th Session, JECFA considered HMT not be acceptable in food, because of its acute toxic effects and the absence of sufficient toxicological data. In addition, JECFA concluded at its 17th Session that HMT should not be used in food which might contain nitrate, since this might lead to the formation of nitrosamines.

86. The JECFA Secretariat informed the Committee of the different evaluations of JECFA in 1961, 1964, 1965, 1971 and 1973 respectively. In its latest evaluation it allocated an ADI of 0-0.15 mg/kg for HMT. The delegation of Norway, however, reminded the Committee that HMT is present in Codex List C_1 (see para. 151). The Committee decided to postpone the endorsement of the provision and accepted an offer of the IDF for the preparation of a paper on this matter.

Information from the IDF (CX/FA 85/10, Part I-Add. 2) Draft Stadard for Cheese

87. The Committee noted that JECFA had established a full ADI of 0.065 mg/kg for annatto as bixin/norbixin instead of a temporary ADI as stated in the document. The Committee discussed the proposed maximum level of 35 mg/kg for annatto expressed as bixin/norbixin. The observer from the IDF explained to the Committee that this level is used in cheeses in the United Kingdom, and takes into account levels traditionally used in different regions.

88. The Chairman of the WG on Food Additive Intake, reminded the Committee that his WG was informed by NATCOL that normally not more than 10 mg/kg annatto is used in food. However, he had no objection against higher uses in some highly coloured cheeses. The delegation of Italy supported by the delegation of Austria was of the opinion that a decision should be postponed, since cheese had to be considered as staple food and the use of this colour was not necessary and might be deceptive to the consumer.

89. The delegation of Belgium proposed to postpone the endorsement of this provision since it had calculated that with a consumption of 100 g of cheese the ADI is already achieved. The Committee decided to postpone the endorsement and to study the matter in more detail. A circular letter will be sent out requesting more data from governments on intake figures of annatto from the diet. The observer from IDF agreed with this proposal and offered to contribute information to the WG on Food Additive Intake.

90. The Committee also decided to request from the appropriate Commodity Committee more information on the types of cheeses in which this colour is used.

Karaya and Xanthan Gum in Cheese

91. The Chairman of the Working Group on Food Additive Intake suggested that the appropriate Commodity Committee be informed of the results of the investigations on this substance by the WG. The Committee agreed to this proposal.

Action needed by CCFA resulting from change in ADI status of food additives

92. The Committee had before it a document CX/FA 85/10 - Part II, prepared by the Secretariat on the subject. The document explained the actions needed to be taken by CCFA resulting from changes in the ADI for the status of the different food additives. The decisions of the Committee were tabulated in Appendix III, Part 2 to this report. It was informed that JECFA at its 27th Meeting had allocated a full ADI to Azorubine and Ponceau 4 R. JECFA also recommended a change from full ADI to temporary ADI for Benzylacetate based on results of more recent toxicological studies which had been evaluated. It was also informed that JECFA at its 28th Meeting had allocated a full ADI to Anoxomer, Glucose Isomerase (isolated from Streptomyces violaceoniger), Amaranth, Brown HT (formerly chocolate Brown HT) and Quinoline Yellow and recommended a change from full ADI to temporary ADI for Erythrosine. The ADIs of Protease (isolated from Streptomyces fradiae) and Dichloromethane were withdrawn at the above meetings.

93. The Committee noted that the document erroneously referred to the allocation by JECFA of a full ADI to Butylated Hydroxy Toluene (BHT). Since the ADI is temporary, BHT remains temporarily endorsed.

94. The delegation of Denmark commented on the level of Azorubine present in flavoured yoghurt and products heat-treated after fermentation. The delegate was of the opinion that 57 mg/kg was too high a level to be considered as the result of carry over.

95. The Committee did not agree to the recommendation for changing the present status of endorsement of Amaranth in certain Codex Standards from temporary to full endorsement and expressed the view that before any action is taken the subject of intake of Amaranth from food should be reviewed by the Working Group on Food Additive Intake, because it had an ADI less than 2 mg/kg.

Withdrawal of Temporary ADI of Beet Red

96. The Committee recalled its action taken at its last session not to withdraw any endorsement of Beet red, because the withdrawal of its temporary ADI by JECFA due to lack of data. The Committee decided to postpone the decision for one session pending submission of data by the National Food Colours Association (NATCOL).

97. NATCOL submitted some toxicological reports on betanin and beet red of investigations carried out in 1981 and 1983. The Association expressed the view that the current manufacture and use of products based on beet red was confined solely to the beet juice and concentrates made from it. In some cases the juice was merely concentrated, while in others it was reduced to a powder by spray drying. These products were not extracts of the active colouring principle, betanin. These products were considered in the trade as vegetable juices.

98. The Committee retained the view that when a vegetable juice was concentrated, its naturalness was lost and consideration must then be given to reaction products present from interaction of substances during the concentration process. If after concentration a vegetable juice was used as food colour, it should be considered as a food additive and toxicologically evaluated according to guidelines contained in the 26th report of the JECFA. Since JECFA had withdrawn the ADI for Beet Red, the Committee agreed to withdraw any endorsement of Beet Red.

99. The Committee, however, agreed that Beet Red should be included in the Codex priority list for JECFA evaluation in 1987.

ENDORSEMENT OF PROVISIONS FOR MAXIMUM LEVELS FOR CONTAMINANTS IN COMMODITY STANDARDS

100. The Committee had before it document CX/FA 85/10-Part III, which contained extracts of the provisions concerning contaminants in several standards under elaboration, and document CX/FA 85/10, Part III, Add. 2, containing a proposal for the inclusion of provisions concerning contaminants in the Codex Standards for canned fruits and vegetables.

101. The decisions of the Committee concerning the endorsement, whether full, temporary or otherwise were contained in Appendix III, Part III to the present report. The following summarized the discussion in this item.

CODEX COMMITTEE ON CEREALS, PULSES AND LEGUMES

Draft Standard for Certain Pulses

102. The Committee was unable to accept the general provision on heavy metals proposed in the Draft Standard, and requested the Codex Committee on Cereals, Pulses and Legumes to provide proposals for maximum levels for the heavy metals of significance.

JOINT ECE/CODEX ALIMENTARIUS GROUP OF EXPERTS ON THE STANDARDIZATION OF FRUIT JUICES

Draft General Standard for Fruit Nectars Preserved Exclusively by Physical Means

103. The Committee postponed endorsement of the levels proposed for arsenic and lead due to the potential high intake of these products by children. In the case of lead, it was noted that JECFA would review the situation in 1986, paying particular attention to the special case of infants and children. The Committee recommended that a similar review should be undertaken on arsenic. The Chairman of the Joint Group of Experts informed the Committee that a questionnaire on heavy metal contamination, including arsenic and lead, had been sent recently to Governments as part of the Group's consideration of contaminant levels in fruit juices and nectars.

104. The Committee temporarily endorsed the level of 250 mg/kg for tin and recommended that tin be placed on the Priority List of substances for evaluation by JECFA (see para. 106 below). The delegations of France and Italy confirmed their previous reservations on the endorsement of tin at this level. The delegations of China and Cuba, informed the Committee that in their countries the maximum level for tin in foods had been set at 200 mg/kg except that Cuba in the case of guava nectar and a few other highly acid products permitted somewhat higher levels.

105. In reply to a suggestion that sulfur dioxide should be considered as a food additive rather than as a processing aid, the Committee noted that the presence of low levels of sulfur dioxide were due to the reduction of sulfates to sulfites by the action of yeast and should be considered as a natural contaminant.

CODEX COMMITTEE ON PROCESSED FRUIT AND VEGETABLES

Provision for Lead and Tin in Codex Standards for Canned Fruits and Vegetables

106. The Committee postponed endorsement of the provisions for tin and lead proposed by the Codex Committee on Processed Fruits and Vegetables. The Committee was of the opinion that the proposal was stated too generally, and that a differentiation between products was required particularly since adequate data would appear to be available as a result of the survey carried out by CCPFV to allow this to be done. It also noted that JECFA would review its evaluation of lead in 1986, and that the Expert Committee had been requested to review its evaluation of tin. Many delegations expressed their view that the level of tin being proposed was too high, and that consumption of canned fruits and vegetables with tin levels near the maximum concentration permitted would contribute disproportionately large amounts of tin in the diet.

107. In regard to lead, it was noted that the increasing use of welded seams in cans had reduced considerably lead contamination in canned foods.

108. The delegation of New Zealand noted that there was a problem in applying tin limits at the proper point in the distribution chain. Was the 200 mg/kg relevant to freshly canned products, products which had been stored for some time, or at the retail level as purchased by the consumers? Tin levels in canned food increase during storage and this was accelerated in hot climates. These matters should be taken into consideration when developing limits for tin.

MAXIMUM PERMITTED LEVELS OF LEAD IN SUGAR

109. The seventeenth session of the Committee had expressed concern at the levels of lead in foods often consumed in quantity by infants and children, particularly sugars

(see ALINORM 85/12, paras. 100-105). The Committee had before it document CX/FA 85/10, Part III, Add. I, containing a summary of replies to Codex Circular Letter 1985/7 as prepared by the Secretariat of the Codex Committee on Sugars (United Kingdom). On the basis of these replies, and replies to previous Circular Letters (1981/24, 1982/36) document CX/FA 85/10, Part III, Add. 3, had been prepared by the Codex Secretariat proposing the reduction of the maximum levels for lead from 2 mg/kg to 1 mg/kg for all sugars, except white sugar (already 1 mg/kg) and fructose (0.5 mg/kg).

110. In view of the continued concern expressed by several delegations that the proposed limits were still too high, but noting also that 1 mg/kg was perhaps the best level technologically achievable by many of the sugar-producing countries, the Committee temporarily endorsed the proposals of the secretariat but stated its intention of keeping the matter under review with the objective of further lowering these limits in the future. Several delegations proposed that levels of lead from 0.3 to 0.5 mg/kg would be appropriate.

111. The delegation of Denmark noted that the method for lead analysis referred to in the standards for sugars was not sufficiently reliable to determine quantitatively levels of lead at 1 mg/kg. The delegation of the USA particularly noted the danger of getting false-positive results by laboratories where a lead-free environment could not be guaranteed. The delegation of Argentina, noted that a maximum level of 0.5 mg/kg would be acceptable to Argentina and stated that the atomic spectrophotometric method adopted by the AOAC was used in that country.

CLASS NAMES AND INTERNTIONAL NUMBERING SYSTEM (INS) OF FOOD ADDITIVES

112. The Committee had before it the report of the ad hoc Working Group on Class Names and International Numbering System for Food Additives (Room Document CX/FA 85/9-Add.1 - See Appendix IV to this report) and the documents CX/FA 85/9 - Consideration of the International Numbering System for Food Additives based on replies to CL 1983/23. The report was presented by the Chairman of the Working Group, Dr. L.J. Erwin.

International Numbering System for Food Additives

113. The Chairman of the Working Group informed the Committee that there was general agreement in the WG with the proposed INS, which was based on the EEC-numbering system. The Chairman noted that in Australia the draft INS numbering system will soon be introduced and that an informational pamphlet for use by consumers had been elaborated.

114. There was also general agreement in the WG that numbers in the INS system were only allocated for the purpose of labelling and should not be interpreted as having toxicological significance.

115. The WG did not agree with a suggestion to simplify the system by deleting the use of class names.

116. The WG was of the opinion that the INS should include those additives which were used in International trade and decided that the additives included in FAO - Food Nutrition Paper N2 30 should be the basis for the system. It was, however, aware that also other additives were used in international trade. Therefore, the WG suggested a draft list based on FNP-N2 30 be prepared. This list could then be circulated so that

governments could indicate which additional additives should be included and that this should be considered at the next session of the WG and CCFA.

117. The observer from the EEC indicated that although he supported this approach, he considered FAO FNP-30 as a working document for additives included in the system. The Committee agreed with the proposed approach of the WG.

118. The WG also agreed that in order to facilitate an easy identification of the substances, the lists should be elaborated in numerical and alphabetical order. The WG was aware of the fact that different chemical terms were in use for the various substances and therefore agreed that the nomenclature of the FAO/FNP-30 should be used as a source for the primary names. Alternative names should be included between brackets as synonyms. In this way the INS number was linked to the JECFA evaluation and based on the JECFA specification.

119. The WG also discussed whether different sodium salts of an additive should be identified by a separate number. It decided that the intake of sodium could not be dealt with through this identification system but through more appropriate ways of information. The WG was aware that the present method of assigning numbers had not always been consistent. The WG, however, agreed that since the EEC system is widely used there should be no change to the numbers presently allocated. Further, the WG was of the opinion that different salts should be numbered separately. The Committee agreed with this view but recognized that this may not be possible in all cases.

120. The WG discussed the advantages and disadvantages of a decimal system but recognized that it was dealing with a rather complicated matter and was therefore unable to make recommendation to the committee at this time.

121. The WG noted that the EEC is using an E prefix which has a toxicological meaning to the consumer, but was of the opinion that it is not necessary to include a prefix in the INS. The observer of the EEC indicated that the EEC is rather attached to its prefix and that only in future discussions can it reconsider its position on this point. The Committee agreed with the recommendation of the WG to delete the E prefix.

122. The WG acknowledged that there were different views in various countries as to whether certain substances should be considered as food additives or food ingredients. It felt that the only way to handle this matter is to consider them on a case-by-case basis.

123. The delegation of the USA recognized that the INS is coming to a stage where the possibility of an internationally agreed system could be realised. He also recommended that the substances should be linked to defined specifications and that the different systems in use at the moment should become compatible.

124. The observer of the EEC, while agreeing with this view, drew the attention of the Committee to the problem of linking specifications to an INS number which could result in problems with trade between countries.

125. The Chairman of the WG on specifications reminded the Committee that CCFA has approved Codex specifications which are also JECFA specifications.

Class Names

126. The Chairman of the WG reminded the Committee of the history of this subject. CCFA has been requested by the CCFL to develop a system of class names in order to inform the consumer. The WG had considered two new class names "humectants and firming agents" but had taken no decision on the addition of new class names to the

system. Instead it proposed to send out a Circular Letter requesting government opinions as to whether these should be included. The CL will also inquire whether additional class names should be included.

127. The delegation of the Netherlands welcomed this proposal of the WG and requested that the categories "bulking agents and colour retention agents" be included as new class names.

128. The delegation of the FRG requested that vitamins and minerals also be included as class names.

129. The delegation of Switzerland warned the Committee not to take too hasty action on this point. In its opinion after careful consideration the present list of class names was only recently agreed to by the CCFL and CAC.

130. The Chairman of the WG acknowledged this view but was also of the opinion that the list of class names was a continuing procedure.

131. The Committee agreed with the proposal of the WG and also to include the four class names as suggested by the delegations of The Netherlands and the Fed. Rep. of Germany. After consideration of the comments from this CL it can be decided whether new class names are needed or whether the recently approved list is adequate.

132. The WG had also discussed the suitablity of the class name for "Artificial sweeteners". A majority of the WG felt that this class name should be revised since there were also sweeteners available which were of a natural origin. It had recommended that the term "Sweetening Agent" as worded in FAO/FNP 30 would be more appropriate. Several delegations felt, however, that the subject was complicated since there were different types of sweeteners intended for various groups of consumers and that the subject must be studied in detail. A number of delegations expressed the view that they were in favour of maintaining the term "Artificial".

133. The delegation of the UK preferred the term sweetener rather than sweetening agent in FNP 30 since it felt that it is the shortest term and means the same.

134. The Chairman concluded that there was not enough support in the Committee for this proposal of the WG to make a decision and that therefore a CL will be prepared requesting opinions on the subject, taking into account the different aspects of the discussions. The CL will be prepared by the Secretariat in cooperation with the Chairman of the WG.

135. The Chairman of the WG informed the Committee of the agreement of the WG on the deletion of the class name "enzymes".

136. The WG also decided that "flour improvers" was not an appropriate class name. It was of the opinion that the term "flour treatment agents" was the correct class name since this term included flour improvers and bleaching agents. The Committee agreed with the WG and decided to bring this to the attention of the CCFL and CCCPL.

137. The WG considered the request of the European Starch Association that chemically modified starches should be classed as ingredients rather than food additives. The WG did not agree with this proposal and accepted the view that chemically modified starches should be considered as food additives. The Committee endorsed the view of the WG.

138. The WG was divided on whether these starches should be identified by a specific number for each substance or whether the class name "Modified Starches" was

sufficient. A number of delegations and the observer from the IOCU expressed that they were in favour of the allocation of numbers to each specific substance.

139. The observer of the EEC was of the opinion that it was not appropriate at this time to make a decision on this issue. He drew the attention of the Committee to the decisions of CCFL and the Commission which had adopted the revised general standard for labelling of prepackaged foods which provided for chemically modified starches to be declared under a class name "Modified Starches" without specific identification. Since the Committee had many different viewpoints, it decided to study the issue of numbering in more detail and to request information from governments through a Circular Letter.

140. The Committee thanked the Chairman and decided to reinstate the Working Group under the Chairmanship of Dr. L.J. Erwin (Australia). The membership of the Working Group is as follows: Australia, Canada, Germany F.R., The Netherlands, New Zealand, Sweden, Switzerland, UK, USA, EEC, CIAA, FAO, IFGMA.

Revisions to Codex List B

141. The Committee had before it document CX/FA 85/2 containing proposals for revisions of Codex List B. The purpose of this paper is to bring the Codex List up-to-date in the light of decisions of the 28th and 29th meetings of JECFA. The Committee noted that although JECFA had considered a number of additives in the existing Codex List B, it would not evaluate the additives unless they had information on the food uses of the additives and specifications on its food grade quality. It expressed the view that such food additives should be deleted from the Codex List B.

142. The following additives were deleted from Codex List B since they had been allocated an ADI by the 28th and 29th JECFA.

Acid Bases and Salts

Aluminium Ammonium Sulfate
Monomagnesium Phosphate monobasic
Potassium Sulfate
Ferric Ammonium Citrate

Colours

Brown FK
Caramel Colour (Ammonia Process)
Saffran (JECFA considered this as a food)

Emulsifiers and Stabilizers

Tragacanth gum, carrageenan

Flavours and Flavour Enhancers

Ethyl methyl phenylglycidate
Potassium inosinate, Potassium guanylate

Miscellaneous

Chlorine (flour treatment agent)
Thaumatin

Enzymes

Alpha amylase from Bacillus licheniformis

143. The status should be changed for the following food additives from B2 to B1 since they were considered by JECFA at its 28th and 29th meetings.

Acids, Salts and Bases

Sodium Sesquicarbonate

Food Colours

Carthamus yellow

Thickening Agents

Gum ghatti

Miscellaneous

Sodium Thiocyanate

144. The following food additives should be deleted from Codex List B since no information is available either on the food uses or on their availability in food grade quality.

Acids, Bases and Salts

Ammonium succinate
Calcium succinate
Magnesium succinate
Potassium fumarate
Potassium succinate

Thickening Agents

Oat gum

145. The Committee agreed to the addition of the following additives suggested by Sweden to Codex List B.

Additive	Technological Function
Caffeine	Flavouring Agent
Dextran	Emulsifier, Thickening Agent
Maltitol	Sweetening Agent
Medical Charchoal	Colour
Meta-Tartaric Acid	Used in the production of wine in order to reduce a surplus of acid by making a colloidal complex with Tartaric Acid
Quinine Hydrochloride	Flavouring Agent
Quinine Sulfate	Flavouring Agent

146. The following food additives were included in Codex List B at the suggestion of USA.

Acids, Bases and Salts	Status
Potassium Acid Tartrate	B2
L-Malic Acid	B2
DL-Malic Acid	B2
Emulsifiers and Stabilizers	
Sodium Hypophosfite	B2

147. The Committee agreed that the existing Codex List B (ALINORM 85/12, Appendix V) should be amended in the light of the above revisions. The revised Codex List B is appended to this report as Appendix V.

Codex List C of Food Additives

148. The Committee had before it document CX/FA 85/3 containing an updated Codex List C on Food Additives.

149. Introducing the paper, the Codex Secretariat informed the Committee that Codex List C is the so-called "Negative List" which contains all those food additives which in the opinion of JECFA are unsafe for use in food or restricted to specified uses. Additives which have not been allocated an ADI for other reasons are not included in List C. The List C is subdivided into C1 and C2. List C2 contains those food additives which in the opinion of JECFA should be restricted to certain specified uses. List C2 for the present contains only one food additive, Hydrogen Peroxide which is restricted for use as an emergency measure for the preservation of milk.

150. The delegation of Denmark questioned whether "Chlorine" which is cleared for use by JECFA only for use in cakes, should be included in List C2. The Committee however preferred to have the food additive included in List A, with an appropriate footnote.

151. The Committee noted that the inclusion of Hexamethylene Tetramine in List C1 was an error and asked the Secretariat to amend List C1 accordingly. The delegation of USA was of the opinion that although the Codex Lists of Food Additives, are advisory they also provide useful information and should therefore be included in Codex Alimentarius Vol. XIV on Food Additives.

152. The Committee was informed that the Codex Lists of Food Additives were not included in Codex Alimentarius since they were only advisory. Discussions ensued on whether Codex Lists of Food Additives are advisory or mandatory and the Committee asked the Secretariat to prepare a paper on the subject of Status of Codex Lists of Food Additives for discussion at its next session.

153. The Committee expressed the view that List C of Food Additives as contained in CX/FA 85/3 with the deletion of Hexamethylene Tetramine was acceptable to it and should be appended to the report (see appendix VI).

Advisory List of Food Additives Used in Soft Drinks

154. The delegation of USA brought the attention of the Committee to the Codex Advisory List of Food Additives Used in Soft Drinks, that was communicated in 1984 to all member governments by the Codex Secretariat by a Circular Letter, CL 1984/52-FA. In its view, the list which was adopted by the 11th session of CCFA in 1977, needed to be updated in light of food additives used in soft drinks and that had been allocated ADIs by JECFA since 1977.

155. The delegation of USA proposed that the existing Advisory List of Food Additives Used in Soft Drinks be expanded by inclusion of the thirty one additives, that it listed by: i) functional effect category, ii) name of additive, iii) year of JECFA evaluation, and iv) toxicological rating (A1/A2) in a letter addressed to the Chief, Joint FAO/WHO Food Standards Programme, Rome.

155a. The Committee agreed that member countries should be invited to suggest further additions to the Advisory List of Food Additives Used in Soft Drinks and asked the Secretariat to solicit this information by a circular letter to which the letter received

from USA on the subject should be appended. The Committee agreed to discuss the subject of Advisory List of Food Additives Used in Soft Drinks at its next session in light of government comments.

CONSIDERATION OF FLAVOURS

156. The Committee had before it documents CX/FA 85/6 and Add. 1 and the report of the ad hoc Working Group on Flavours, CX/FA 85/6-Add.3. It was agreed to treat the various items together in the light of the conclusions of the Working Group (See Appendix VII to this report).

General Requirement for Natural Flavourings

157. The Committee considered a revised text of the General Requirements for Natural Flavourings (CX/FA 85/6) in the light of the conclusions of the Working Group. The chairman of the WG, informed the Committee of the changes proposed by the Working Group concerning the General Requirements.

Section 2.1.1 Natural Flavourings

158. The delegation of France indicated that it preferred the original text of this section as contained in document CX/FA 85/6. The Committee adopted the new text proposed by the Working Group.

Section 2.1.4. (footnote 1)

159. The Committee noted that a Thai list of aromatic source materials existed which, while official, was not part of the Thai food regulations. It agreed to include this list and the Canadian list among the list of references to appropriate aromatic source materials. The AFNOR list referred to in document CX/FA 85/6-Add.4 and the ISO list referred to in document CX/FA 85/6-Add.2 were also included in addition to those recommended by the Working Group (i.e. the Council of Europe list and the up-dated US list). It was also noted that the various lists officially referred to were being up-dated from time to time and that this fact should be indicated in this Section.

Section 4. Biologically Active Substances

160. The Committee agreed to leave the list unchanged, but noted that FIVS had indicated that berberine could be deleted as no aromatic source materials were being used by the industry which required a provision for this biologically active substance. It was also agreed that this list was not exhaustive and should be so designated.

Section 6. Labelling

161. The representative of the EEC pointed out that Section 6.1 (D) proposed by the Working Group, did not require a declaration of food additives and adjuncts in descending order of proportion and that this could be further clarified at the next session. The Committee agreed that the section on labelling would have to be revised taking into consideration the newly adopted Codex General Standard for the Labelling of Prepackaged Foods and the Codex Standard for the Labelling of Food Additives when sold as such.

Status of the General Requirements

162. The Committee noted that it would be appropriate to follow the Codex Step Procedure whether or not ultimately the General Requirements would be elaborated as an advisory text or one which would be subject to acceptance by Governments. The Committee did not take a position on this issue but decided that the General

Requirements as amended and editorially revised by the Secretariat, should be submitted to Governments at Step 3 of the Procedure.

Amendment of Codex List B of Flavours

163. The Committee noted that the Working Group had considered and accepted a new presentation of the flavouring substances included in List B (Appendix V to ALINORM 85/12) proposed by IOFI. The new presentation separated flavouring substances into three categories: artificial, nature-identical and natural. The artificial flavouring substances were further subdivided into:

a) those not yet found in edible source materials,

b) esters and acetals, the constituents of which have been identified in different foods, and

c) esters and acetals, the constituents of which have been identified in the same food.

The Committee decided to postpone until the next session consideration of the subdivision proposed above when the question of Codex Lists of food additives would be discussed as a general issue.

164. The proposal to delete certain synthetic flavouring substances from List B as proposed by the Working Group was accepted by the Committee except for thioguaiacol, which was retained on List B at the request of the delegation of the UK. The Chairman of the WG and the delegation of the UK were requested to clarify the exact chemical nature of this synthetic flavouring substance.

Setting Priorities

165. The Committee agreed with the view of the Working Group that the question of priority setting and consideration of flavouring substances should be undertaken by an FAO/WHO Group of Experts especially convened for this purpose, and that first priority should be given to artificial flavouring substances. The delegation of Denmark was of the opinion that such a group should decide on the priorities whether the flavouring substances were "artificial" or "nature-identical".

Establishment of an ad hoc Working Group on Flavours

166. The Committee reappointed Mr. J.P. Goddijn (The Netherlands) as Chairman of the Working Group and also decided to reinstate the Working Group with the following membership: Belgium, Canada, Denmark, Finland, Fed. Rep. of Germany, India, Israel, Italy, The Netherlands, Norway, Switzerland, Thailand, UK, USA, Bureau de Liaison, Council of Europe, Commission of European Communities, CIAA, FAO, FIVS and IOFI.

CONSIDERATION OF PROCESSING AIDS

167. The Committee had before it the report of the Working Group on Processing Aids (see Appendix VIII). In introducing the report, the Chairman of the Working Group reminded the Committee of the origin of the inventory of processing aids. CCFA had in previous sessions taken the decision to prepare an inventory of processing aids in order to identify those materials that were in use as processing aids and also to enable a decision regarding residues of processing aids present in food. The WG had reaffirmed this position in their present discussion.

168. The WG considered the Codex definitions of the terms "processing aid" and "food additive", but decided that it served no purpose to try to amend these definitions

since it recognized that the main concern of the definition regarded its implication to labelling and not to the safety of food. The WG emphasized that the principle question was whether a substance had a continuous function in the end product. If so it should be regarded as a food additive.

169. The WG also recognized that the purpose of the inventory was to evaluate the residues left in food and to decide which residues were of enough concern to include them on the Priority List for JECFA evaluation.

170. It was also suggested in the WG that the end result of the inventory might be a restrictive list. However, the WG did not make this recommendation at this time.

171. The WG agreed that a new compilation of the inventory with the incorporation of all the comments will be prepared and circulated for comments. The Committee agreed with this proposal of the WG.

172. The Chairman of the WG reminded the Committee that the Committee at its last Session discussed removing several substances from the inventory. Information about these substances was collected. With regard to asbestos it appeared that the use of this material in food processing was being phased out. In addition, the WG was informed that it was not possible to distinguish in food between environmental contamination from asbestos and the contribution from the use of asbestos filters. Therefore due to a lack of this information the WG decided that it was unnecessary for JECFA to review the matter.

CARRY OVER PRINCIPLE

173. The WG had considered the comments on the revision of the Carry Over Principle (COP). In view of the few comments received the WG decided that further revision was unnecessary and recommended to move the COP to Step 6 or 7. The Committee followed this recommendation and decided to advance the COP to Step 5 with a recommendation for the omission of Steps 6 and 7. The revision of the Carry Over Principle is attached as Appendix IX to this Report.

174. Responding to a request for clarification on the status of the principle from CIAA the Secretariat explained that the COP had already been adopted by the Commission as an advisory text. The Secretariat anticipated that this status would remain unchanged for the revised text. The status of the COP would become mandatory only if the COP was applied in Codex Standards.

175. The WG also considered the question of whether the COP was applicable to contaminants. It was of the opinion that since in Codex Standards contaminants did not appear on the label there was no reason to make the COP applicable. The Committee endorsed this view.

176. The Working Group discussed the comments of the CCCPL on the provision for bleaching agents in their Standard for Wheat Flour. As indicted in para. 75, the WG decided these substances were food additives. As a consequence of this decision they will be removed from the list of processing aids. The Committee endorsed this view.

177. The WG considered a Working paper on the question whether enzymes were food additives or processing aids. It was recognized by the WG that in a small number of cases enzymes continued to exercise their function in the finished food product and in such cases would be considered as food additives. The Committee endorsed this view. The delegation of Argentina reserved its position on the enzymes.

178. The WG had discussed briefly the question of toxicological criteria for assessing processing aids. It felt that this was not a matter for this Committee to decide.

179. The Committee thanked the Chairman and decided to reinstate the Working Group under the Chairmanship of Mr. R.J. Ronk (USA). The membership of the Working Group is as follows: Australia, Belgium, Brazil, Canada, Denmark, France, Finland, F.R. Germany, Italy, The Netherlands, Norway, New Zealand, Switzerland, Sweden, Thailand, United Kingdom, USA, AMFEP, IFGMA, CEE, IUPA, FAO and WHO.

Draft Standard for Food Grade Salt

180. The Committee had before it documents CX/FA 85/13 and CX/FA 85/13-Add.1 (Room Document). CX/FA 85/13 contained the government comments on Food Grade Salt received in response to CL 1984/26. CX/FA 85/13-Add.1 was a report prepared by the Working Group on Consideration of the draft standard for food grade salt and attached as Appendix X, Part 1 to this report.

181. The Committee noted that the Commission at its 16th Session had adopted the standard at Step 8 of the procedure in consideration of the urgent need for the standard by the industry and by many of the member countries. The Commission also stipulated that the provisions on Contaminants be included in the standard when finalized by CCFA.

182. Introducing the Working Group report, Dr. Perinelli informed the Committee that the Working Group dealt with Section 5 on Contaminants at the request of the Commission and also sections 7 - 8 on Labelling of Bulk Packs at the request of CCFL. The CCFL made this request because salt moved in bulk packs in international trade.

183. Based on the results of analysis of over 200 samples of food grade salt received from different countries, the Working Group recommended that the following maximum limits for contaminants should not be exceeded in food grade salt.

Arsenic	- not more than 0.5 mg/kg expressed as As
Copper	- not more than 2 mg/kg expressed as Cu
Lead	- not more than 2 mg/kg expressed as Pb
Cadmium	- not more than 0.5 mg/kg expressed as Cd
Mercury	- not more than 0.1 mg/kg expressed as Hg.

Assuming a figure of 10 grams for the average intake of salt per person per day, the As, Cu, Pb, Cd and Hg intakes from salt amounted to only 4.2%, 4.7%, 4.7%, 8% and 2.3% respectively of their potential tolerable weekly intakes and did not pose any potential health hazard.

184. The Working Group decided to temporarily endorse the maximum levels recommended for Arsenic, Cadmium and Mercury in salt and ask the Joint FAO/WHO Food Contaminants Monitoring Programme to monitor the intakes of these contaminants.

185. The Committee agreed with the recommendations of the Working Group for maximum levels for contaminants in Food Grade Salt.

186. New text for Section 5 of the Standard was contained in the Working Group report.

187. The Working Group also suggested the following wording for the provision regarding labelling of bulk packs.

7.8 Bulk Packs

Information required in sections 7.1 to 7.6 shall either be given on the container or in accompanying documents except that the name of the product, lot identification and the name and address of the manufacturer or packer shall appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark provided that such mark is clearly identifiable with the accompanying documents.

188. The Committee approved the above text noting that the wording for labelling of bulk packs suggested by the Working Group was in line with the guidelines on labelling provisions in Codex Standards and expressed the view that it should be referred to the CCFL for endorsement.

189. The Committee also agreed to refer to the CCFL for endorsement the new text "when salt is used as a carrier for nutrients, any special conditions on the storage should be indicated on the container".

190. The Chairman thanked Dr. Perinelli and members of the Working Group on behalf of the Committee for the work they had done. Since the Working Group had successfully completed its work it was not reinstated.

Consideration of the Report of the Working Group on Methods of Analysis for Salt

191. The Committee had before it a report of the above mentioned Working Group. The report was introduced by Mr. Viard of the CEES (see Appendix X - Part 2, to this report).

Sampling

192. The Committee noted that the Working Group had developed a sampling procedure which suggested the use of a lot average as the basis of the acceptance of lots (batches) of salt moving in trade as a mandatory provision. It had also suggested advisory sample sizes in relation to lots. The Committee agreed that this matter should be referred to the Codex Committee on Methods of Analysis and Sampling for endorsement.

Determination of Halogens

193. The Committee noted that the Working Group agreed for inclusion in the standard of two methods (one "reference" and one "alternative approved" method) to be tested and adopted by ISO to replace the mercurimetric method at present included in the standard. It was agreed that the methods adopted by ISO should be referred to the Codex Committee on Methods of Analysis and Sampling for endorsement.

Corrections to the existing Method for the determination of Total Mercury

194. The Committee accepted certain corrections to the above method included in the standard for salt (ALINORM 85/12) and requested the Secretariat to make the necessary corrections in the standard adopted by the Commission.

195. The Committee, noting that the ad hoc Working Group had completed its task, decided not to establish another Working Group. It expressed its appreciation to the chairman of the Working Group, Dr. Rocamora (Spain) and to the other members of the Working Group for their valuable assistance.

Consideration of Specifications of Identity and Purity of Food Additives

196. The Committee had before it document CX/FA 85/7 (Room Document) containing the report of the ad hoc Working Group on Specifications. The report of the WG is presented in full as Appendix XI. The report was introduced by Dr. J.P. Modderman, the Chairman of the WG. The chairman noted that the WG had considered specifications for 128 compounds evaluated at the 27th and 28th meetings of JECFA and published in FAO Food and Nutrition Papers N2 28, 31/1 and 31/2. The WG had also considered government comments arising from Codex Circular Letters 1983/43-FA and 1984/42-FA. Recommendations of the WG formed the basis for the endorsement of Codex Advisory Specifications in accordance with the procedure described in the Procedural Manual (5th Edition, 1981, pp. 40-41).

197. The Committee noted that to date 103 Codex Advisory Specifications (Category I) and 28 specifications with editorial amendments had been adopted by the Codex Alimentarius Commission. The recommendations of the WG if adopted, would bring these totals to 130 Category I and 59 Category II Codex Advisory Specifications. In addition 9 existing Codex Advisory Specifications were being proposed for revision.

198. The WG noted that there was no single document which contained a full reference list of Codex Advisory Specifications, and that the Category II specifications had never been published. It recommended that the Codex Advisory Specifications should be published in a single volume, preferably in a loose-leaf form (see para. 2 of the WG Report).

199. The Committee strongly endorsed the recommendation of the WG that the Codex Advisory Specifications be published.

200. The Committee also agreed with the revised description of the Categories used by the WG in its consideration of specifications (see paras. 3 and 4 of the WG Report).

Status of draft Codex Advisory Specifications

201. The Committee endorsed the recommendations of the WG with respect to Category I and Category II specifications arising from FAO Food and Nutrition Papers N2 28, 31/1 and 31/2, and agreed to submit them to the Commission for final adoption at Step 5 of the Procedure for the Elaboration of Codex Specifications for the Identity and Purity of Food Additives.

202. In considering the specifications for food colours included in FAO Food and Nutrition Paper N2 31/1, the observer from the EEC noted that specifications for food colours were still under discussion in the EEC and that therefore he could give no opinion at the present time.

203. The Committee also agreed with the recommendation that special attention be paid to the chemical nomenclature of these substances, and noted the offer of the observer from IUPAC to assist the secretariat in this regard.

204. With reference to a comment of the delegation of Australia, the Committee agreed that the inclusion of the International Numbering System numbers in the Codex Advisory Specifications would be considered after the system had been finalized. The delegation of Argentina, in reference to the foregoing discussion, reserved its opinion, due to lack of documentation in the Spanish language.

Establishment of an ad hoc Working Group on Specifications for Identity and Purity

205. The Committee expressed its thanks to the Chairman of the WG and decided to reestablish an ad hoc WG under the Chairmanship of Dr. J.P. Modderman (USA). The Group will have the following members: Austria, Brazil, Denmark, Finland, France, Fed. Rep. of Germany, India, Japan, Switzerland, Thailand, United Kingdom, United States, EEC, IUPAC and MARINALG.

CONSIDERATION OF SAMPLING PLANS FOR THE DETERMINATION OF CONTAMINANTS IN FOODS

206. The Committee had before it working paper CX/FA 85/14 containing an indication of various possible approaches to sampling and analysing shipments of food for determining compliance with Codex Maximum Permitted Levels (MPL). In introducing the paper the Secretariat stressed the need for an internationally agreed approach to defining the parameters on the basis of which consignments of food would be accepted or rejected in relation to MPLs for contaminants. The Secretariat was of the opinion that it would be useful to examine whether the acceptance/rejection criteria could be developed as mandatory parts of the Codex recommendations(i.e. subject to international agreement). Guidelines for the selection of sample size and other statistical considerations relating only to the degree of confidence in making correct decisions would be established.

207. The Committee was informed that very few replies had been received to the Circular Letter distributed to Governments on the above issue (CL 1983/38-FA) and that there appeared to be no concensus on the approach to be adopted. It also appeared that the various types of criteria would require different sampling procedures and lot acceptance criteria. For example, determining compliance might be acceptable on the average value of the samples examined in some cases. In other cases tolerances would have to be built into the acceptance criterion in order to ensure that no individual unit in the sample would exceed a certain value. In certain circumstances detailed sampling plans would be required.

208. The Committee noted the above remarks and also noted that the Committee on Fruit Juices had opted for a simple plan involving the analysis of a single composite sample (CX/FA 85/14, Appendix II, Section IIc) following the example of the Codex Committee on Pesticide Residues. Regarding the question of the status (i.e. advisory or mandatory) of Codex Sampling Procedures, the Committee noted that this question was still open. It noted, however, that the WG on Salt had adopted a system suggested by the Chairman of the WG involving mandatory acceptance criteria (average) with advisory sampling sizes in relation to lots.

209. It was agreed to discuss the question when considering the report of the Working Group on Contaminants (See para. 210).

REGULATION OF INDUSTRIAL AND ENVIRONMENTAL CONTAMINANTS IN FOOD

210. The Committee had before it the report of the Working Group, document CX/FA 85/18, Add. 3, (see Appendix XII of this report).

211. Prior to the discussions on this document, Mr. I. Avigdor, former rapporteur to CCFA, informed the Committee of a booklet, prepared by him, which contained general information on contaminants. The booklet was made available to the delegations.

212. Dr. S.A. Slorach (Sweden), Chairman of the WG, informed the Committee that the WG had discussed current national legislation on contaminants as indicated in

document CX/FA 18 and Annex I which had been prepared by Mr. H. Mollenhauer, FAO Consultant and had abstract information on levels of mercury in fish and fish products as indicated in CX/FA 85/18-Add.4. The Secretariat together with the Chairman of the WG will prepare a CL requesting information on current status of National legislation of Contaminants in foods.

213. The Committee agreed with the proposal of the WG to update the documents. Governments were requested to send information to the Chairman of the WG.

214. The Committee noted that JFCMP had been collecting data for several years on contaminant levels in food and intake estimates for contaminants, including tin, lead and cadmium.

215. The Committee agreed with the WG that it is necessary to consider only limits which are enforceable with respect to the reliability and sensitivity of analytical methods.

216. The Committee had discussed possible ways of regulating contaminants in food. The Chairman of the WG explained the types of limits for contaminants considered by the WG. The WG differentiated between "maximum permitted levels" (MPL) and "guideline levels" (GL). An MFL was considered to be a legal level. If the MPL in a certain foodstuff was exceeded, the food would be considered as unfit for human consumption. A Problem with such a rigid limit was that it may cause difficulties in trade and food (might be rejected unnecessarily). The interpretation of compliance of shipments of food with the MPL in terms of sampling was also considered. For example should each and every item comply or does the MPL refer to the average value determined on the samples.

217. The WG, on the other hand, considered a guideline level to be more a warning level, above which control authorities should consider taking action in order to prevent any hazard to the consumer. The WG considered a GL to represent a more flexible approach, since if exceeded it would not automatically result in the rejection of the food.

218. The Committee recognized that the selection of an appropriate level depended on the type of contaminant involved.

219. The delegation of Switzerland pointed out that the approach for aflatoxins which are known carcinogens, should be different from the approach for regulating such contaminants as lead. For aflatoxins a GL approach did not appear to be appropriate.

220. The delegation of Denmark informed the Committee that its country had recently introduced legislation on contaminants and that both MPL and GL were used, depending on the product. For some products both levels were used. In the latter case, the GL was lower than the MPL.

221. The delegation of Canada supported by the delegation of Australia suggested an alternative approach involving setting MPLs and specifying what action had to be taken under various circumstances, i.e. where the food exceeded the MPL. Under such a system an MPL acted as a GL.

222. The delegation of the United Kingdom drew the attention of the Committee to the importance of the distribution of a contaminant in a lot, since this influenced the acceptance criteria and sampling procedures to be chosen, whether a GL or an MPL had been set.

223. The Committee concluded that both an MPL and a GL will have their use and that in some cases both might be applied. The WG would suggest on a case by case

basis which approach should be applied or whether the application of both approaches was necessary.

224. The Committee also decided that the WG on food Additives Intake should be involved in comparing the JECFA evaluations to intake estimates for the establishment of GLs.

Establishment of Limits for Mercury in Fish

225. The Chairman of the WG informed the Committee that the WG had discussed data on levels of mercury and methyl mercury in fish and shellfish. It had noted that there were no limits for mercury in the Codex Standards on Fish and Fishery Products.

226. The WG had also noted that not all the mercury in fish seemed to be present in the form of methyl mercury. The delegation of the USA pointed out that the figures presented in some papers had been wrongly calculated as regards the ratio of methyl mercury to inorganic mercury. The Committee agreed that limits should refer to total mercury rather than methyl mercury, especially since total mercury was easier to measure analytically.

227. The WG, in reviewing the available data, considered a level of 0.5 ppm appropriate as a limit for total mercury in fish. However, it recognized that for some specific species of fish, a higher level would be necessary. The Committee agreed with the WG that it was not yet appropriate to establish levels for mercury but first more data should be collected. It was agreed, therefore, that a Circular Letter should be sent out and more data collected and evaluated by the Joint FAO/WHO Food Contamination Monitoring Programme.

228. It was also decided that the WG on Food Additive Intake should consider this issue and should collect, through a circular letter intake levels on mercury, and on the types of mercury analyzed (i.e. inorganic/organic mercury ratio).

229. Regarding the question whether the WG should consider limits for mercury in fish in general or should restrict itself to limits in Codex Standards only, the Committee supported the view of the Chairman to consider general limits for fish and where necessary to elaborate limits for specific species of fish.

Future Programme of Work

230. The Committee discussed the future tasks for the WG. It noted that the WG had suggested that priority should be given to aflatoxins and lead but had assigned cadmium a lower priority.

231. Responding to a request for clarification of the latter statement, the Chairman of the WG explained that this did not mean that cadmium had a lower priority from a health point of view, but that it had been decided for practical reasons. He felt that it would be very difficult to influence the levels of cadmium in food by establishing maximum levels. However, the WG would return to the issue in a future meeting.

232. The Secretariat informed the Committee that a second FAO/WHO conference on mycotoxins would in all likelihood be held in 1987 in Harare, Zimbabwe. The attention of the Committee was also drawn to the WG on oil seeds, fats and oils of the FAO Committee on Commodity Problems which had discussed the question and prepared a paper reviewing the current regulatory situation on aflatoxins in various countries. The Committee agreed that the WG should only discuss briefly the problems related to aflatoxins and should await the outcome of the FAO/WHO Conference.

233. Regarding the responsibilities of the different Codex Committees and Working Groups regarding contaminants, the Committee felt that the WG on Contaminants should work on the question of criteria for compliance of lots with limits already endorsed in various Codex Standards. The responsibilities of the WG would not include pesticide residues or migrants from packaging materials.

234. The Committee also agreed that the questions raised during the discussion of sampling and compliance criteria for consignments of food should be covered in a working paper for the next session of CCFA. The Chairman of the WG agreed to prepare such a paper in cooperation with the Secretariat.

235. The delegation of the USA was of the opinion that the main problem relating to compliance with contaminant regulations was not so much to determine under what circumstances goods should be detained but under what circumstances such foods should be released or condemned.

Establishement of a Working Group on Contaminants

236. The Committee thanked the Chairman and reinstated the WG under the chairmanship of Dr. S.A. Slorach (Sweden). The membership of the Working Group is as follows: Australia, Belgium, Canada, Cuba, Denmark, Finland, France, Fed. Rep. of Germany, Italy, India, Ivory Coast, Israel, Sweden, New Zealand, Norway, Switzerland, Thailand, The Netherlands, United Kingdom, USA, OECD, IFGMA, WHO and FAO. The Chairman of the WG on Food Additive Intake had also been invited to participate.

PRIORITIES FOR FOOD ADDITIVES

Water Treatment Agents

237. The Committee had before it two documents for consideration CX/FA 85/11-Add. 2, an information paper prepared by WHO on the subject and CX/FA 85/11-Add. 6, which contained the replies of Governments in response to CL 1984/50-FA.

238. Introducing the paper CX/FA 85/11-Add. 2, Dr. Gorchev (WHO) informed the Committee that the paper was prepared at the request of the 17th Session of CCFA and outlined briefly the activities of WHO in the field of water treatment agents and construction materials. Reference was made to the polynuclear aromatic hydrocarbons arising from the use of coal tar and similar based materials from pipe linings and coatings on storage tanks and to polyelectrolyte coagulant aids which were of concern because of the unreacted monomer. Chlorine which is an inexpensive and effective disinfectant is widely used and its use may sometimes result in formation of chloroform and trichloromethane, compounds which may be harmful.

239. The Committee noted that chemicals and residues of chemicals as those named above found in water resulting from the use of water treatment agents and construction materials should be regulated by national authorities.

240. The Committee recalled the decision that it had taken at the last session not to embark on a programme on work on water treatment agents (ALINORM 85/12, Para 228), and considered the documents as information only and took no action.

Report of Working Group on Priorities

241. The report of the ad hoc Working Group on Priorities as amended by the Committee is attached as Appendix XIII to this report. The report was introduced by the Chairman of the Working Group Mr. L. Erwin (Australia).

Codex Priority List of Food Additives and Contaminants

242. The Chairman of the WG informed the Committee that the WG had reviewed the priority list prepared at the previous session (ALINORM 85/12, Appendix XI, Annex 1). It had been noted that JECFA at its 29th Meeting assessed all the additives in the priority list, except clarifying enzymes.

243. The Committee noted that clarifying enzymes were mostly microbial enzymes used for clarification of fruit juices and that information including a list of specific enzymes was made available by AMFEP. This was retained in the priority list.

244. The Committee agreed to include the following in the priority list:

4-Hydroxylmethyl-2-6-di-tert-butyl-phenol (Antioxidant proposed by USA)
Tin intake: Proposed by USA
Natural smoke flavour (a specified product), proposed by Denmark
Canthaxanthin - proposed by Australia and Sweden
Beet Red
Alpha-amylase from Aspergillus oryzae
Protease from Aspergillus oryzae

245. The Codex Priority List as approved by the Committee is given as Annex I to Appendix XIII. The Committee noted that JECFA would review the new information on Monosodium Glutamate that had become available since 1973 at the 31st Meeting in 1987 under the provisions for cyclic review of compounds. However, if intake studies on MSG which may be carried out in the near future in South East-Asia show that there could be a potential problem, the Committee agreed to consider including it at its next session in the Codex Priority List for a full evaluation.

Packaging Materials for Foods

246. The Committee recalled that at its last session, it asked Canada to make estimates of intakes of Vinylchloride, acrylonitrile, styrene and di-(2-ethylhexyl) phtalate based on levels of these migrants from food packaging materials found in foods.

247. The above information had been collected by a Circular Letter from member countries and summarized in document CX/FA 85/11. Table 1 listed governments responding to the CL and indicated the type of information submitted. Additional information made available by USA, Fed. Rep. of Germany and Argentina, the Committee noted would be made available by Canada as an Addendum to the report. Table II summarized by country the levels of each migrant found in food. Tables III and IV summarized by country the levels of each migrant extracted by food stimulating solvents and the dietary exposure which could result in migrants from packaging materials.

248. The Committee agreed with the recommendation put forth by Canada (Paras. 27 and 28 of the WG report) that since human dietary exposure to these migrants had been demonstrated in food it was time to consider limiting these migrants as a result of food packaging application. Canada agreed to prepare a position paper on methods by which this task might be accomplished. A CL will be circulated to governments for comments prior to the next session.

249. The Committee also agreed with the recommendation of the WG (Paras. 29 and 30) and supported the continuation of a limited approach of studying the problems of food packaging material.

Consideration of Vitamins and Minerals

250. The Committee could not agree to the proposal of Federal Republic of Germany (F.R.G.) and the WG to consider the addition of a new para. 7 into the General Principles for the use of Food Additives as pointed out in paras. 31-33 of the WG report. F.R.G. was asked to prepare a paper together with the secretariat in order to indicate the reasons for the proposed amendment and to offer various options for inclusion of vitamins and minerals into the activities of CCFA. Many delegations objected to the inclusion of vitamins and minerals in the General Principles for the use of Food Additives.

Request from OECD for the establishment of Codex Maximum Limits for certain Chemical substances on Various Fruits and Vegetables

251. The Committee noted that a request from OECD as above was referred to it and to CCPR by the Commission. The Committee agreed with the views of the WG (Paras. 35-38) that the request from OECD opened up a whole new area of work which needed careful consideration. Information provided by the OECD (ALINORM 85/11) would need to be supplemented with data on a range of matters including function of the chemical concerned, method of use, level of use, residual levels, extent of use, etc.

252. The Codex Secretariat agreed to liaise with the OECD to prepare a detailed discussion paper on this subject suitable for presentation to the next session of CCFA and CCPR.

Methods of Analysis of Food Additives in Food

253. The Committee recalled its discussion at the last session on the subject when it considered the analytical determination of food additives in food as important area for future work and agreed that work should be initiated on this activity. It recognized that analysis of food additives represented a very broad field and had requested the delegation of Canada to investigate setting up certain priorities for future work.

254. The paper CX/FA 85/11 - Add. 1, prepared by Canada contained references to methods of analysis of food additives in food classified into: i) Methods of analysis for food additives for which validated methodology is available, ii) Methods of analysis for food additives for which methodology is available with some degree of validation but not subjected to full collaborative study and iii) Methods of analysis for food additives for which validated methodology is lacking.

255. The Committee agreed with the recommendation of the WG (Para 41) that the paper needs updating and information on the subject should be sought by a circular letter. Some information had already been provided by Fed. Rep. of Germany (CX/FA 85/11-Add. 1A) and by ISO (CX/FA 85/11-Add. IB) to the Committee.

256. The Committee expressed the view that the aim of the exercise should not be to develop Codex methods, but to use them for advice. The exercise covered a very broad field and the Committee agreed with a proposal of the delegation of the People's Republic of China that priorities should be set.

257. The Committee noted that the Interagency meeting (a meeting of all international agencies interested in the analysis of food) would be a good forum for discussion of the document. It was agreed that early action should be taken to seek inputs by means of a CL from member countries and also AOAC, ISO, IUPAC and the other international organizations and the document up-dated in light of information provided by them to be made available to the Interagency meeting in Budapest in November 1986.

258. The Committee agreed not to establish a WG for analysis of Food Additives. It accepted the recommendation of the WG that member governments be requested to submit information they may have on validated methods of analysis for FA in foods. It was agreed that the concept of validation be explained as a part of the CL to request input to a paper to be prepared by Canada.

Procedures that Member Governments should follow for submission of data

259. The Committee noted that the WG had considered a paper CX/FA 85/11 - Add. 4 prepared by the Codex Secretariat. It was decided that in the light of recent discussions, the paper would need updating.

260. The Committee agreed with the recommendation of the WG (Para. 45) and asked the Codex and JECFA secretariats to liaise in revising the paper CX/FA 85/11 - Add. 4 for its consideration at the next Session.

Establishment of an ad hoc Working Group on Priorities

261. The Committee expressed its appreciation to Mr. Erwin (Australia) for chairing the WG. It thanked Mrs. Kirkpatrick (Canada) for her extensive input into the work on methods of analysis of food additives and also for the paper on packaging materials. The chairman of the WG pointed out to the Committee that he was chairing two Working Groups. Because of the heavy work load he reluctantly asked to be relieved of the chairmanship of the Working Group on Priorities. Canada agreed to be the new chairman of the Working Group which was reinstated with the following membership: Australia, Brazil, Canada, Finland, Fed. Rep. of Germany, The Netherlands, Norway, Spain, Sweden, Switzerland, Thailand, United Kingdom, USA, EEC, IGTC, IFAC, Marinalg International.

Other Future Work

262. The Committee had before it a Room Document CX/FA 85/16 prepared by the secretariat on how the Committee should proceed to express an opinion on food additives other than those included in Codex Standards.

263. The Secretariat informed the Committee that the official position taken by CCFA for the present was limited to those food additive provisions in Commodity Standards elaborated by the Codex and endorsed by it. The Committee has no expressed opinion concerning food additives that have not been included in Commodity Standards.

264. The Secretariat brought to the attention of the Committee that the Committee has been charged by the Commission with the responsibility for establishing maximum permitted levels for food additives in specific food items. The Secretariat expressed its view that a new programme of work should be initiated by the Committee to discharge its responsibility to the Commisssion.

265. The Secretariat will prepare a paper on the subject that would identify the problem and offer suggestions to provide solutions to the problem. This paper will be communicated by means of a circular letter to governments well in advance of the next Session. The Secretariat's paper along with the Governments' comments will be placed before the next Session of the Committee for discussion.

Other business

266. The observer from CIAA brought the attention of the Committee to the Campaign in Europe and other regions of the world against the use of food additives in food which

has harmed not only the industry but also the public and agreed to prepare a paper for discussion by the next Session of the Committee.

267. The delegation of Spain, speaking on behalf of all Spanish speaking delegations who attended the Session, thanked the Dutch government for providing Spanish Interpretation and documentation in Spanish at the Session which facilitated their effective participation in the deliberations of the Session.

Moment of silence in memory of Professor Astolfi

268. The chairmen informed the Committee that Prof. Astolfi, an internationally renowned toxicologist and a member of the Argentine Medical Academy, had recently passed away. The Chairman referred to Prof. Astolfi's active participation in many sessions of the Codex Committee on Food Additives and also several JECFA meetings. The committee observed a moment of silence in memory of Professor Astolfi.

Date and place of next Session

269. The Committee noted that its next Session would be held in The Hague from March 17-23, 1987. The Committee was informed that further Sessions would propably be hold at yearly intervals.

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LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

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ALINORM 87/12
APPENDIX II

REPORT OF THE WORKING GROUP ON FOOD ADDITIVE INTAKE

1. The following participated in the meeting (See Appendix I for Addresses):

M. Fondu	-	Belgium (Chairman)	D.C. Kirkpatrick	-	Canada
Ch. Crémer	-	Belgium	W.J. Sander	-	MARINALG
H. Galad Gorchev	-	WHO	J.C. Howell	-	USA
B. Mathiondakis	-	CEC	T. Kappeler	-	Switzerland
A.H. Olsen	-	Denmark	R.K. Reinton	-	Norway
A. Hallikainen	-	Finland	T. Hellstrom	-	Norway
Y. Sugita	-	IGTC	P.J. Sträter	-	Fed. Rep. of Germany
R. Van Essche	-	ISA			
R. Cristol	-	IFAC	W. Krönert	-	Fed. Rep. of Germany
M. Konishi	-	Japan			
S. Pruengkarn	-	Thailand	W.J. de Koe	-	The Netherlands
R. Kumton	-	Thailand	A. Eisenberg	-	Israel
E. Quattrucci	-	Italy	P. Pothisiri	-	Thailand
			U. Dechmani	-	Thailand
			L.A. Ladomery	-	FAO

2. During the discussions, the WG reached the following conclusions:

Tin in canned food:

3. The WG received with great interest the information that a document would be made available at the end of 1985 regarding Guidelines for producers of cans and of canned food on contamination with Tin and lead. It suggested that CCFA inform Governments concerning the importance of this document asking them to take this document into consideration.

4. As regards long term toxicity, a level of 250 mg Tin/kg food was considered acceptable for foodstuffs of not too high consumption. However, as regards canned drinks like beer, soft drinks and fruit juices, a level of 250 mg/kg drink was considered to be too high, taking into consideration a mean intake of 600 ml of the drinks. Therefore, the WG proposed to CCFA to request information from Governments regarding actual level of Tin in these drinks.

5. As regards acute toxicity, the WG would like to receive from JECFA more information regarding: "the threshold for acute manifestations of gastric „ irritation appears to occur with concentrations of about 200 mg/kg in food. (Ref. JEFCA 26th Meeting, p. 32) Information is specially required regarding the kind of Tin combination which is involved and the meaning of "about 200 mg/kg food". The WG would be interested in receiving copies of the new toxicological monographs on Tin and stannous chloride which are in preparation according the 26th report of JECFA.

6. Taking into consideration the paper prepared for the WG on contaminants entitled "Different types of limits for contaminants in food and their enforcement, the WG confirmed that 250 mg/kg food had to be considered as a Maximum permitted level (level that is laid down in legal instruments such as laws and

regulations). However, the WG considered very useful to introduce "Guideline levels" as foreseen in the above mentioned paper. These levels would not automatically imply that the food is unfit for human consumption or that it cannot be offered for sale. They would mean levels above which the general control authorities should take action to prevent any hazard to the consumer, to identify the source of contaminants and, if possible, to reduce contamination.

Therefore, the WG proposed to CCFA that the following guideline levels should be sent for consideration to Governments:

canned foods
- milk and milk products, baby and infant food: max. 50 mg/kg
- meat and meat products, fish and fish products: max. 100 mg/kg
- fruit, vegetables, fruit juices, other drinks: max. 150 mg/kg
- to propose a list of specific foods for which - due to the nature of the food, a value of 200 mg/kg can be considered as acceptable.

Intake of lead by infants and children

7. Taking into account the information received and the excellent paper CX/FA 85/5A prepared by WHO, the WG requested the CCFA to strongly indicate to JECFA the risk of high intake of lead and cadmium by infants and children. It proposed that CCFA asks Governments to continue to monitor this problem, to produce intake figures on this matter and to send their information to the Joint FAO/WHO Contamination Monitoring Programme.

Benzoic acid

8. According to the information received and provided, the level of benzoic acid in soft drinks remains below 300-400 mg/l, there seemed to be no likelihood of exceeding the ADI. It was proposed to the CCFA to ask Governments and especially those having calculated intakes to introduce into their calculations the Codex figures for benzoic acid and to examine to what extent acceptance of those Codex standards would modify their intake values.

Colouring matters with an ADI lower than 2 mg/kg b.w.

Annatto:

9. The WG proposed to the CCFA to ask for uniformity in the way of authorisation of this colour in the different standards. A maximum level of 10 mg/kg calculated as Bixin seemed acceptable.

Curcumin:

10. It seemed that there was controversy regarding the chemical identity of the different forms of this product. If this is confirmed, JECFA should be requested to clarify the situation. Here also a uniformity in the way of authorisation was needed.

Residues of Sulfurdioxide

11. The WG proposed to the CCFA to ask JECFA

- to have a look at the sensitivity problems linked to SO_2, to inform JECFA.
- on the fact that ADI is regularly exceeded by groups of populations

- on the fact that the values of SO_2 found in foodstuffs were subject to discussion due to the problem of free and bound SO_2, this bound SO_2 needing probably other toxicological evaluations.

12. During the discussions, the problem was raised to know whether bleaching dried fruit with SO_2, which results in very high residue levels, could be considered as an acceptable practice in view of the high intakes of residues.

Polyolycerol Polyricinoleate (P.G.P.R.)

13. Due to absence of technological justification P.G.P.R. should not be authorized in minarine. The authorisation of use in chocolate and chocolate products and as part of the list of processing aids (plate greasing agent) should be maintained.

Artificial Sweeteners

14. The WG did consider that a compilation of national regulations on the use of artificial sweeteners should be continued. As regards intake studies, due to the fact that the situation is continuously changing, the WG considered that information on intake was important. Therefore, the WG proposed that the excercises should be continued.

Existence of additives in different forms

15. Some concern has been expressed during the meeting of the WG regarding the presence of some organo-metal compounds in foodstuffs, like organo-arsenic in fish and organo tin in compounds as contaminants from packaging materials. The WG proposed to the CCFA that it informs JECFA of its great interest regarding such organo metal compounds.

Xanthan gum

16. The WG had requested to consider the problem of the intake of Xanthan gum, a problem related to a proposal for authorisation of this additive at a level of 8 g/kg in cheese foods and cheese spreads (in combination with various other thickening agents) After having examined information received from Governments and from Marinalg, it was concluded that 8 g/kg was a level relating to a blend of thickeners. As regards Xanthan gum, 5 g/kg could be considered as an acceptable figure. It was, therefore, proposed by the WG to CCFA that the Milk Committee be requested to introduce the 5 g/kg level for Xanthan gum instead of 8 g/kg cheese foods and cheese spreads.

Other thickeners

17. A document was received from France for consideration regarding the problem of preferential consumption by children of food containing thickeners. Two questions were raised in this document and the WG proposed to the CCFA that JECFA be requested to consider these questions:

    1. What is the risk of modification of gut flora with the intake of thickeners at levels of 60-80 mg thickener/kg body weight/day for children and infants.

    2. What is the risk of modification of absorption of some essential nutrients with these levels of thickeners.

Glutamates

18. A letter from IDCU was discussed at length.

The following proposals were made by the WG to CCFA:

- taking into account the fact that, according to intake figures received, there seemed to be no risk of exceeding the ADI, no intake study should be done. However, if in one country, indications exist that the ADI was exceeded by some groups of the population, this country should inform the JECFA of the situation.
  Related to this problem it was proposed that Guidelines for a simple evaluation of additive intake for use by developing countries, would be elaborated taking as framework: the Guidelines for the study of dietary intake of chemical contaminants (WHO 1-87).
  WHO (Mrs. Galal Gorchev), Thailand (Mr. Pothisiri), Belgium (Mr. Fondu), agreed to collaborate in the preparation of such a paper.

Future Work

19. The following problems will have to be considered by the WG at its next meeting:

- Tin level in canned drinks - Lead intake by infants and children
- Introduction of Codex values for benzoic acid into national intake studies.
- SO_2 according to JECFA discussions
- Follow up of artificial sweeteners
- Antioxidants if ADI are lowered
- Draft guidelines for a simple evaluation of food additive intake.

ALINORM 87/12
APPENDIX III

PART I

ENDORSEMENT OF MAXIMUM LEVELS FOR FOOD ADDITIVES IN CODEX COMMODITY STANDARDS

This Appendix summarizes all provisions which were considered by the codex Committee on Food Additives at its 18th Session.

Abbreviations used

E	- Endorsed
TE	- Temporarily Endorsed
EP	- Endorsement postponed for reasons given in the footnotes
Limited by CMP	- Limited by Good Manufacturing Practice
NE	- Not Endorsed

Contents

Meeting of the International Olive Oil Council (IOOC)

Codex Standard for Table Olives (ALINORM B5/33, "Appendix III)

Food Additive	Maximum Level in the final product (Expressed as weight m/m over total weight of olives including brine)	Paragraph	Status of endorsement
Benzoic acid and its Sodium and potassium salts	1g/kg expressed as Benzoic acid		E
Sorbic acid and its sodium and potassium salts	0.5g/kg expressed as sorbic acid		E
Sulphur dioxide	Sulphur dioxide residue in the processed product ready for consumption shall not exceed 100 mg/kg.	62	EP [1]
Sodium sulphite			EP [1]
Sodium bisulphate			EP [1]
Sodium disulphite			EP [1]
Potassium disulphite			EP [1]
Calcium sulphite [2]			EP [1]
Lactic acid	15g/kg		E
Citric acid	15g/kg		E
Tartaric acid	15g/kg	63	E
Acetic acid	Limited by GMP		E
Carbon dioxide	Limited by GMP		E
L-Ascorbic acid	0.2g/kg		E
Ferrous gluconate	0.15g/kg (calculated as total Fe in the fruit)		E
Ferrous lactate	0.15/kg (calculated as total Fe in the fruit)	64	EP

1) EP, requesting more information on the technological need

2) Not Cleared toxicologically by JECFA.

Food Additive	Maximum level in the final product	Paragraph	Status of endorsement
Natural Flavours as defined by Codex Alimentarius	Limited by GMP	65	TE
Monosodium glutamate	5g/kg		E
Guanylic acid	Limited by GMP		E
Sodium guanylate	Limited by GMP		E
Inosinic acid	Limited by GMP		E
Sodium alginate		66, 67	EP. [1)]
Carrageenates			E
Carob bean gum	Limited by GMP		E
Guar gum			E
Xanthan gum		66	EP [1)]
Calcium chloride	15g/kg expressed as calcium ion in the stuffed end product		E
Calcium lactate		68	E
Calcium citrate			E
Potassium chloride	1,5g/kg expressed as potassium ions in the stuffed end product		E
Sodium hydroxide	Limited by GMP.	69	E
Hydrochloric acid	Limited by GMP	69	E
Processing Aid	Use level	70	E
Cultures of microorganisms	Limited by GMP		
Nitrogen	Limited by GMP		E
Carbon dioxide	Limited by GMP		E

1) CP, requiring the setting of a maximum level

CODEX COMMITTEE O N CEREALS, PULSES AND LEGUMES

Draft Standard for Wheat Flour (ALINORM 85/29, Appendix II)

Food Additive	Maximum Level in the final product	Paragraph	Status of endorsement
Fungal anylase from			
i. Aspergillus oryzae	Limited by GMP	71	EP [1]
ii. Aspergillus niger	Limited by GMP		E
Proteolytic cnzymes from		71	
i. Aspergíllus oryzne	Limited by GMP		EP [1]
ii. Bacillus subtilis	Limited by GMP		E
L-ascorbic caid and its Na and K salts	300 mg/kg expressed as ascorbic acid	72	E
Azodicarbonamide	45 mg/kg [2]	73	EP [3]
Potassium bromate	50 mg/kg [2]	73	EP [3]
Mono-calcium-phosphate	2500 mg/kg	74	EP [4]
Lacithin	2000 mg/kg		
Benzoyl peroxide	100 mg/kg [2]	75, 76	EP [3]
Chlorine dioxide	30 mg/kg [2]	75, 74	EP [3]
Chlorine	2500 mg/kg [2]	75, 76	EP [3]

[1] Not cleared toxicolocally by JECFA
[2] Treatment level
[3] EP, lacking technological justification
[4] EP, in the view of the high level proposed

COORDINATING COMMITTEE FOR EUROPE

Draft Standard for Vinegar (ALINROM 85/19, Appendix II)

Food Additive	Maximum Level in the final product	Paragraph	Status of endorsement
Caramel Colour (ammonia process) (for malt vinegar only)	1 g/kg		E

CODEX COMMITTEE ON FOODS FOR SPECIAL DIETARY USE

Draft Standard for Follow-up Food for Older Infants and Young Children (ALINORM 85/26, Appendix IV)

Food Additive	Maximum level in 100 ml of product - ready for consumption	Paragraph	Status of endorsement
Guar gum	0.1 g singly or in combination		EP [1]
Locust bean gum			
Distarch phosphate	0.5 g singly or in combination in soy based products only, 2.5 g singly or in combination in hydrolyzed protein and/or amino acid based products only	78, 79	EP [1]
Acetylated distarch phosphate			EP [1]
Phosphated distarch phosphate			EP [1]
Acetylated distarch adipate			EP [1]
Carrageenan	0.3 g singly or in combination in milk and soy based products only, 0.1 g singly or in combination in hydrolyzed protein and/or amino acid based liquid products only		EP [1]
Alginates, Na, K, Ca, NH_4			
Pectins (amidated and non-amidated)	1 g		EP [1]
Lecithin	0.5 g		EP [1]
Mono- and Diglycerides	0.4 g		EP [1]

Sodium hydrogen carbonate		78, 79	
Sodium carbonate			
Sodium citrate			
Potassium hydrogen carbonate			
Potassium carbonate			EP [1]
Potassium citrate			
Sodium hydroxide	Limited by CMP, within the limits for Na and K in Section 3.2.6		
Potassium hydroxide			
Calcium hydroxide			
L(+) Lactic acid			
L(+) Lactic acid producing cultures			
Citric acid			
Mixed tocopherol concentrate -Tocopherol	3 mg singly or in combination		EP [1]
L-ascorbyl palmitate	5 mg singly or in combination expressed as ascorbic acid	78, 79	EP [1]
L-ascorbic acid and its Na and Ca Salts			
Natural Fruit Extract	GMP		EP [1]
Vanilla Extract	GMP		EP [1]
Ethyl Vannillin	5 mg		EP [1]
Vanillin	5 mg		EP [1]
Caramel Colour, plain	GMP		EP [1]

[1] EP - requesting for more information on the technological justification

ECE/CODEX GROUP OF EXPERTS ON STANDARDIZATION OF FRUIT JUICES

DRAFT GENERAL STANDARD FOR FRUIT NECTARS PRESERVED EXCLUSIVELY BY PHYSICAL MEANS HOT COVERED BY INDIVIDUAL STANDARDS (ALINORM 85/14, Appendix IV)

Food Additive	Maximum Level in the final product	Paragraph	Status of endorsement
Citric acid	Limited by GMP		E
Malic acid			E
L-ascorbic acid	400 rag/kg		E
Carbon dioxide	Limited by GMP		E

CODEX COMMITTEE ON FRUITS AND VEGETABLES

DRAFT STANDARD FOR CANNED PALMITO (Appendix VII, ALINORM 85/20)

Food Additive	Maximum Level in the Final Product	Paragraph	Status of endorsement
Stannous chloride, only for palmito in glass or in fully enamel-lined (lacquered) cans	25 mg/kg	81	E
L-ascorbic acid	300 mg/kg		E
Citric acid	To maintain the pH at a level not above 4.6 if the product is heat pasteurized or limited by CMP if the product is heat sterilized		E
L(+) tartaric acid			E
dl-lactic acid			E
Alginates (Ca, K, Na, NH_4)	1%. m/m singly or in combination, to be used only when butter, margarine or other animal or vegetable fats or oils are added as ingredients		E
Carrageenan			E
Pectin (amidated or non-amidated)			E
Gum arabic (acacia)			E
Guar gum			E
Acid-treated starches			E
Alkali-treated starches			E
Bleached starches			E
Distarch phosphate (phosphated)			E
Distarch phosphate (sodium trimetaphosphate treated)	0.5% m/m singly or in combination		E
Monostarch phosphate			E
Distarch phosphate, acetylated			E
Distarch glycerol, acetylated			E

Distarch adipate, acetylated			E
Sodium metabisulphite	20 mg/kg as SO_2	82, 83	E

CODEX COMMITTEE ON PROCESSED FRUITS AMD VEGETABLES

Draft Standard for Canned Chestnuts and Chestnut Puree (ALINORM 85/20, Appendix VIII)

Food Additive	Maximum Level in the Final product		
l-Tartaric acid	10g/kg		E
Preparation of Provolonc cheese			
Hexatnethylenetetraraine	25 mg/kg	84, 85, 86	EP[1]

[1] EP, requesting more information on the toxicological evaluation

Provisions for annatto in cheeses	87 - 90	EP[1]
Karaya and xantham gum in cheese	91	EP

[1] EP, requesting more information on the types of cheeses used

Chage is status of endorsement of food additives resulting from changes in ADI status

AZORUBINE

	Commodity	Maximum Level of Use	Earlier Status	Present status of endorsement
	Flavouxetl Yoghurt and Products heat-treated after fermentation	57 mg/kg (from flavouring substances as a result of carry-over)	TE	E

PONCEAU 4 R

1.	Canned Raspberries	300 mg/kg singly or in combination with Erythrosine	TE	E
2.	Canned Strawberries	300 mg/kg singly or in combination with Erythrosine	TE	E
3.	Canned Plums	300 mg/kg singly or in combination with Erythrosine, in "red" or "purple" plums only	TE	E
4.	Canned rears	200 mg/kg, singly or in combination with other colours, in speciality packs only	TE	E
5.	Jams (fruit preserves) and Jellies	200 mg/kg singly or in combination with other colours	TE	E
6.	Canned Shrimps or Prawns	30 mg/kg singly or in combination with other colours	TE	E
7.	quick Frozen Shrimps or Prawns	30 mg/kg singly or in combination with other colours, in heat-treated products only	TE	E
8.	Flavoured Yoghurt and Products heat-treated after fermentation	48 mg/kg from flavoured substances as a result of carry-over	TE	E

ERYTUROSINE

	Commodity	Maximum Level of Use	Carller Status	Present status of endorsement
1	Canned Apple cauce	200 mg/kg, singly or in combination which other colours	E	TE
2	Canned Pears	200 mg/kg, singly or in combination which other colours	E	TE
3	Jams (fruit preserves) and Jellies	100 mg/kg, singly or in combination which other colours	E	TE
4	Canned Raspbarries	300 mg/kg singly or in combination with Ponceau 4R	E	TE
5	Canned Strawberries	300 mg/kg singly or in combination with Ponceau 4R	E	TE
6	Canned Fruit Cocktail	Limited by GMP (to colour the cherries	E	TE
7	Canned Tropical Fruit Salad	Limited by GMP (to colour the cherries	E	TE
8	Quick Frozen Shrimps or Prawns	30 mg/kg singly or in combination with other colour, in heat-treated products only	E	TE
9	Canned shimps or Prawns	30 mg/kg singly or in combination with other colours	E	TE
10	Luncheon Meat	15 mg/kg (to replace loss of colour for the product with blinder	E	TE
11	Canned plums	300 mg/kg, singly or in combination with Ponceau 4r, in "red" or" purple apple only	E	TE
12	Flavoured Yoghurt and Products heat-treated after Fermentation	27 mg/kg from flavoured substances as a result of carry-over	E	TE

ENDORSEMENT OF MAXIMUM LEVELS OF CONTAMINANTS IN CODEX COMMODITY STANDARDS

I. Meetings of the International Olive Oil Council on revisions of the Codex Standard For Table Olives

Draft Revised Codex Standard for Table Olives (At Step 5)
(ALINORM B5/33, Appendix III)

Contaminant	Maximum Level	Paragraph	Status of endorsement
Lead	1 mg/kg		E
Tin	250 mg/kg		TE

II. Coordinating Committee for Europe

Draft European Regional Standard for Vinegar (Advanced to Step 8)

Contaminant	Maximum Level	Paragraph	Status of endorsement
Arsenic	1 mg/kg		E
Lead	1 mg/kg		E
Sum of Copper and Zinc	10 mg/kg		E
Iron	10 mg/kg		E

III. Codex Committee on Cereals, Pulses and Legumes

Draft Standard for Certain Pulses (Advanced to Step 5) (ALINORM 85/29, Apppendix VI)

Contaminants:	Paragraph	Status of endornrment
Pulses shall be free from heavy metals in amounts which may represent a hazard to health.	102	ME [1]

[1] The Committee requested the Codex Committee on Cereals, Pulses and Legumes to provide proposals For maximum levels For the heavy metals of significance

IV. Joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices

Draft General Standard for Fruit Nectars p reserved Exclusively by Physical Means
(ALINORM 85/14, Appendix IV)

Contaminant	Maximum Level mg/kg	Paragraph	Status of endorsement
Arsenic	0.2	103	EP [1]
Lead	0.3	103	EP [1]
Copper	5.0		E
Zinc	5.0		E
Iron	15.0		E
Tin	250.0	104	TE
Sum of Copper, Zinc and Iron	20.0		E
Sulphur Dloxide	10.0	105	E

[1] EP, pending review of these contaminants by JECFA

V. CODEX COMMITTEE ON PROCESSED FRUITS AND VEGETABLES (ALINORM 85/20)

Codex Standards for Canned Fruits and Vegetables

Contaminant	Maximum Level mg/kg	Paragraph	Status of endorsement
Lead	1.0 (except tomato paste concentrate)	106,107	EP [2]
	1.5 (tomato paste concentrate)		EP [2]
Tin	250	106,108	EP [2]

[2] The proposal is too general. The Committee requested a differentiation between products.

VI. CODEX COMMITTEE ON SUGAR

Food	Max. Level of lead (mg/kg)	Paragraph	Status of endorsement [1]
- White Sugar	1.0	109 - 111	TE
- Powdered Sugar (leing Sugar)	1.0		TE
- Soft Sugar	1.0		TE
- Dextrose, Anhydrous	1.0		TE
- Dextrost Monohydrate	1.0		TE
- Glucose Syrup	1.0		TE
- Dried Clucose Syrup	1.0		TE
- Lactose	1.0		TE
- Powdered Dextrose (lcing Dextrose)	1.0		TE
- Fructose	0.5		TE

[1] The committee temporarily the provision for land in sugars, but steted its intention of keeping them under review objective of further levering the levris in the furture.

ALINORM 87/12
APPENDIX IV

REPORT OF THE WORKING GROUP ON CLASS NAMES AND THE INTERNATIONAL NUMBERING SYSTEM

1. The following participated in the meeting (See Appendix I for addresses).

L.J. Erwin (Chairman)	Australia
N. Rao Maturu (Rapporteur)	FAO
G. De Cean	Australia
J.A. Drum	Canada
P. Kuhnert	F.R. Germany
J.S. Fraser	New Zealand
R.F. van der Heide	Netherlands
C. Nieman	Netherlands
Anita Janelm	Sweden
Pierre Rossier	Switzerland
J. Horton	UK
0. Easterday	USA
Regina Perkowski	USA
R. Haigh	EEC
Ph. Mouton	CIAA
R.H. Murray	CIAA
D.A. Toet	AMFEP

2. The Working Group had the following documentation for consideration:

(1) CX/FA 85/9 - Consideration of the International Numbering System for Food Additives Based on Replies to CL 1984/23 - FA. Late comments from USA and Canada were also considered.

(2) CL 1984/23(FA) - International Numbering System for Food Additives.

(3) CX/FA 85/4 - Matters of interest arising from other Codex Committees.

Consideration of the International Numbering System (INS)

3. The Working Group expressed general agreement with the proposed INS based on the EEC numbers and presented in CL 1984/23 (FA).

4. The delegation of Australia advised the group that the numbering system would be introduced in that country in January 1987. A pamphlet for use by con sumers was distributed. The delegation of New Zealand indicated that a similar approach was being followed in that country.

5. It was agreed that the INS numbers should be for labelling purposes only and as a means of identifying specific food additives. The allocation of a number should not be interpreted as providing information on the toxicological status of the additive.

6. The Working Group discussed a suggestion that the declaration of the numbers on the label without the class names would simplify the labelling. This would be achieved because the numbers would be widely understood internationally whereas the language used for the class names would be restrictive. The Working Group noted that the language problem extended to all the information required on the label.

6(a). It was noted that the recent Session (July 1985) of the Commission had already adopted a revised General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) which requires the declaration of the class name along with the specific name of the food additive or its recognized numerical identification. The Working Group endorsed this requirement because, in its view, consumers did wish to know the functions of the additives listed.

7. It was decided that a list using only the additives in Volume XIV of the Codex Alimentarius would be inadequate as a basis for an INS. This resulted from the restricted range of foods presently covered by Codex standards. There was general agreement that an INS would need to cover most additives in foods in international trade.

8. After considering various options, it was decided that in the first instance the list should be extended to include all additives in FAG Food and Nutrition Paper No. 30 which have been allocated either a full or temporary ADI by JECFA.

9. The Chairman of the Working Group with the assistance of the Codex Secretariat and Mr. R. Haigh (EEC) undertook to prepare a draft INS along the above lines.

10. A number of delegates expressed the view that such a numbering system would still be incomplete as regards facilitating international trade since there were additional additives approved for use by national legislation but not yet cleared by JECFA. In the longer term it would be necessary to allocate numbers for such additives which were common in foods in international trade.

11. It was decided that the revised draft INS (para 9 above) should be distributed to governments along with a request for advice on additional additives for which there could be justification for allocating a number.

12. There was general agreement that future lists should be prepared in both numerical and alphabetical order. Further, where possible the functional classes should be included as subheadings.

13. In order to achieve uniformity with the chemical names used, it was decided that those used in Food and Nutrition Paper No. 30 should be used as primary names. Synonyms, including those names used in Codex Volume XIV and the EEC, should be given in brackets.

14. There was an extended discussion on whether the different salts, and in particular the sodium ones, should be identified by a separate number. It was decided that the intake of sodium from sodium salts used as food additives would probably not add significantly to sodium intake. In any case, nutrient labelling would be the more appropriate means of informing the consumer of sodium levels.

15. It was noted that the present list did not follow any consistent pattern in regard to the degree of specificity for the chemicals concerned. In some cases separate numbers were used to identify individual chemicals (e.g. 201 and 202 for the sodium and potassium salts of sorbic acid). In other cases the one number was used to cover a group of related chemical compounds (e.g. 471 for the mono and di-glycerides of fatty acids). Suffixes were also used to identify sub-groups (e.g. 450 (a) for potassium and sodium pyrophosphates, 450 (b) for the sodium and potassium triphosphates, and 450 (c) for the sodium and potassium polyphosphates.

16. Because the present system of numbers was in wide use, not only within the EEC but also in other countries, it was agreed that the present numbers should be retained to the greatest extent possible. However, in future it would be preferable for each chemical compound to be identified. It. was acknowledged that this would create difficulties since there was a preference for the use of only three digits whenever possible.

17. Since many additional food additives would have to be included in the revised draft INS it was accepted that some additional form of identification beyond three numerical digits would be necessary. Some preference was expressed for the present alphabetical suffixes since they were already in use. Others expressed a preference for a decimal type system because numericals would be more easily understood internationally, since letters would have to be changed to comply with the alphabet of the country of sale. However, a decimal system would also have drawbacks since a comma is now the method recommended by the International Standards Organisation for marking the decimal place. This used in conjunction with commas to separate the numbers would create unacceptable confusion. Therefore, a decimal system would, of necessity, have to use a dot to mark the decimal place.

18. As both systems would have advantages and disadvantages it was decided that government views should also be requested on this matter.

Necessity of a Prefix

19. The Working Group was informed that the prefix "E" was an integral part of the currently operational EEC system and had particular significance for consumers. It was intended to be allocated only to substances which had undergone a toxicological evaluation by the Community. There was agreement that the prefix "E" would serve no purpose in an INS which would be for identification purposes only. The possibility of using another prefix to identify the system as international and/or Codex was considered but not accepted because it would unnecessarily lengthen the number. Here again the use of letters would also have the disadvantage of language.

20. It was decided that a prefix would not be necessary.

Ingredients or Food Additives

21. The Working Group acknowledged that there was no easy answer to the question of where the dividing line should be drawn between food additives and ingredients. It was noted that the present list contained gelatine and sodium caseinate for which there was no consistent policy in member countries. Some considered them as ingredients only while others required them to be treated as food additives in cases where they were used in food to achieve a technological purpose. Others noted that on this basis many ingredients such as flour, starches, etc. would have to be considered as food additives.

22. It was accepted that there was no easy solution to the problem and that such substances would have to be considered on a case by case basis. The matter could be reviewed at the next meeting.

Class Names

23. Consideration was given to whether the list of class names in the revised General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-

1985) was sufficiently extensive to cover all food additives and provide adequate information for consumers. The Chairman noted that already the labelling standard included four classes (propellants, glazing agents, flour improvers and raising agents/bakery powder) additional to those given in Volume XIV of the Codex Alimentarius. While Food and Nutrition Paper No. 30 included a much more extensive list of functional classes many of these would not be suitable for labelling purposes.

24. No decision was taken on additional class names although humectant and firming agent were suggested for consideration in the future. The need for these and perhaps other class names should be raised with governments.

25. The Working Group noted that although the revised Codex General Standard for Labelling included a class name "artificial sweeteners" there was no Codex listing of sweeteners which should be described as such. It was noted that nutritive sweeteners such as sorbitol could not be appropriately included under such a class name. The Working Group rejected a proposal that such sweeteners be labelled as either nutritive or non-nutritive. This was because the low levels of intake of such sweeteners would not add significantly to energy intake.

26. It was noted that Food and Nutrition Paper No. 30 (page 214) included a functional class entitled "sweetening agent" which included potassium acesulfame, aspartame, saccharin and its salts, cyclohexylsulfamic acid, hydrogenated glucose syrup, isomaltitol, lactitol, mannitol, sodium cyclamate, sorbitol, thaumatin and xylitol.

27. The Working Group considered that the class name "Sweetening Agent" would be appropriate for identifying these sweeteners for labelling purposes. It recommends that this proposal be brought to the attention of the Codex Committee on Food Labelling with a view to that Committee initiating an amendment to the General Labelling Standard.

28. The deletion of the class name "enzymes" in the revised General Labelling Standard was endorsed by the Working Group. It agreed that the term did not indicate the function of the substances and that the majority of enzymes were processing aids. Those which were food additives could be covered by other class names or by specific names.

29. The use of the class name "flour improvers" in the revised General Labelling Standard was questioned. It was pointed out that the Working Group on Processing Aids had agreed that the bleaching agents, used in conjunction with flour improvers, should be considered as food additives. On this basis, the correct class name should be flour treatment agent as this would include both the flour improvers and the bleaching agents. The Working Group recommends that this also be brought to the attention of the Codex Committee on Food Labelling with a view to initiating an amendment to the General Standard for Labelling.

30. Consideration was given to the request of the European Starch Association that chemically modified starches should be classed as ingredients rather than food additives. The Working Group did not accept this view and agreed that chemically modified starches must be considered as food additives.

31. It was noted that although the draft INS already included numbers for the chemically modified starches, the declaration of such numbers was not a mandatory requirement of the General Standard for Labelling. A number of

delegates supported the retention of the numbers since in their countries the specific identification of the chemically modified starches was mandatory. Further, the Working Group had already taken a decision to allocate numbers for food additives in Food and Nutrition Paper No. 30 and this included the chemically modified starches. The allocation of numbers would also facilitate trade.

32. Other delegates expressed the view that since the General Standard for Labelling did not require the specific identification of chemically modified starches it would be contrary to the wishes of the Commission to allocate numbers.

33. The Working Group was unable to resolve this matter and brings it to the attention of the CCFA for further consideration.

ALINORAM 87/12
APPENDIX V

UP-DATED CODEX LIST B OF FOOD ADDITIVES

Codes List B of Food Additives contains those substances in which the member states and/or industry have shown interest, and evaluation of which by the Joint FAP/WHO Expert Committee on Food Additives (JECFA), is pending

Some of the Food additives in the list B had been evluated byJECFA at some of its sessions but no ADI could be allocated mainly because of a lack of adequate data. Such of the food additives which fall in the above Category are given a Status of Bl. The rest of the food additives which had never been consider by JECFA are given a Status of B2.

		Status	JECFA Ref.
1.	ACIDS, BASES, SALTS		
	Benzoate, calcium	B2	
	Dihydrogen orthophosphate, ammonium (ammonium phosphate, monobasic)	B2	
	Diphosphate, dlcalcium (calcium pyrophosphate)	B1	8
	Dlphosphate, tetrapotassium (potassium pyrophosphate)	B1	8
	Fumarate, calcium	B2	
	1,4-Heptanolactone, calcium and sodium salts	B2	
	Hydrogen orthophosphate, diammonium (ammonium phosphate, dibasic)	B1	8
	Hydrogen orthophosphate, magnesium (magnesium phosphate, dibasic)	B2	
	DL-malate, sodium hydrogen	B2	
	DL-malic acid	B2	
	L-malic acid	B2	
	Metabisulphate, calcium	B2	
	Phosphate, bone	B1	8
	Phytate, calcium	B2	
	Polyphosphate, ammonium	B1	8
	Polyphosphate, calcium	B1	8
	Polyphosphate, potassium	B1	8
	Sodium Sesquicarbonate	B1	9
	Succinic acid	B2	
	Sulphate, aluminium-potassium	B1	1,2
	Sulphate, aluminium-sodium	B1	2
	Sulphate, aluminium	B1	1,2
	Sulphate, ammonium and sodium	B2	
	Sulphate, hydrogen, potassium and sodium	B2	
	Suphuric acid	B2	
	DL-Tartaric acid and its salts	B1	3,9
	L(+)Tartaric acid	B1	9
	L(+)Tartrate, ammonium	B1	3,9
	L(+)Tartrate, calcium	B1	3,9
	L(+)Tartrate, magnesium	B1	3,9
	Meta-tartaric acid	B2	
	Potassium acid tartrate	B2	
	Triphosphate, pentapotassium	B2	
2.	ANTIOXIDANTS		
	4-Hydroxymethyl-2,6-di-tert-butylphenol	B2	
3.	CARRIER SOLVENTS		
	Diethylene glysol monoethyl ether	B1	4,5, 6
	Diethylene glysol monopropyl ehter	B1	5
	Diethyl tartrate	B1	5,7

	Dipropylene glycol	B1	5
	Hexylene glycol	B2	
	Isopropyl myristate	B1	5
	Paraffins (not defined)	B2	
	Synthetic triglycerides	B1	5,7
4.	COLOURS		
	Beet Red	B1	8,9
	Alkanet	B1	3
	Alkanin	B1	3
	Anthocyanins (incl. anthocyanine)	B1	3,8
	Black 7984	B1	3
	Capsanthine	B1	3
	Capsorubine	B1	3
	Carothene (natural)	B1	3,9
	Carthamus (red)	B1	3,9
	Carthamus (yellow)	B1	3,9
	Charcoal, medical	B2	
	Chrysoine	B1	3
	Fast Red E	B1	3,9
	Fast Yellow AB	B1	3
	Green S	B2	
	Indanthrene Blue	B2	
	Lithol Rubine BK	B1	3,8,9
	Lycopene	B1	1,3
	Orange GGN	B1	1,3
	Orange G	B2	
	Orange RN	B1	1,3,4
	Patent Blue V	B1	1,8,9
	Ponceau SX	B1	1,6
	Ponceau 6R	B1	1,3
	Quercetin and quercitron	B1	3
	Scarlet GN	B1	3
	Silver	B1	3,9
	Ultramarines	B1	3
	Xanthophylls	B1	1
	Yellow 2G	B1	1,3,5
5.	EMULSIFIERS AND STABILIZERS		
	Benzoin gum	B1	3
	Bleached lecithins	B2	
	Dextran	B2	
	Dioctyl sodium sulphosuccinate	B2	
	Esters of glycerol and thermally oxidized soybean fatty acids	B1	4,6

	Gum ghatti	B1	8
	Hydroxylated lecithin	B1	3,6
	Oxidized hydroxypropyl distarch glycerol	B1	4
	Polyglycerolesters of fatty acids	B2	
	Quillaia extract	B1	8
	Sodium carboxymethyl distarch glycerol	B2	
	Sodium hypophosfite	B2	
	Starch aluminium octenyl succinate	B2	
	Starch sodium succinate	B1	8
	Stearoyl monoglyceridyl citrate	B1	8
	Stearoyl propylene glycol hydrogen succinate	B2	
	Succinylated monoglycerides	B1	8
6.	ENZYMES		
	Carbohydrase (Aspergillus oryzae varieties)	B2	
	Catalase (Aspergillus niger varieties)	B2	
	Catalase (Micrococcus lysodeikticus)	B2	
	Ficin	B2	
	Micorbial carbohydrase (Aspergillus awamori)	B2	
	Microbial carbohydrase (Arthrobacter)	B2	
	Microbial glucose oxidase (Penicillium amagasakiense)	B2	
	Microbial rennet (Bacillus cereus)	B2	
	Microbial rennet (Irpex lacteus)	B2	
	Protease (Aspergillus oryzae varieties)	B2	
	Streptomyces fradial-protease	B1	9
7.	EXTRACTION SOLVENTS		
	Butan-1-ol	B1	5,9
	Butan-2-ol	B1	5
	Butane	B1	5
	Cyclohexane	B1	5
	Di-isopropyl ether	B1	5
	1,1-Dichloroethane	B1	5
	Dichlorofluoromethane	B2	
	1,2-dichlorotetrafluoroethane	B1	5
	Diethyl ether	B1	5
	Furfural	B1	5
	Iso-butanol	B1	5
	Isopropanol	B1	6,7
	Isopropyl acetate	B1	5
	Methyl ethyl ketone	B1	5
	Methylated spirit (industrial)	B2	
	Naphta (Medium petroleum fraction)	B2	
	n-Propanol	B1	5,7

Tetrachloroethylene		B1	5
1,1,1-Trichloroethane		B1	5,7
1,1,2-trichloro-trifluoroethane		B1	5

8. FLAVOURS	Status	Council of Europe No.	FEM No.	JECFA Reference
Acetaldehyde benzyl methoxyethyl acatal		523	2148	
Acetaldehyde phenethyl propyl acetal		511	2004	
Acetaldehyde diisopropyl acetal		-		
3-Acetyl-2,5-dimethylfuran		-	3391	
3-Acetyl-2,5-dimethylthiophene		11603	3527	
Acetyl isovaleryl		-	3190	
Acetyl nonanoyl		155	3090	
Allyl acetic acid		2004	2843	
Allyl anthranilate	B2	254	2020	
Allyl Butyrate		280	2021	
Allyl cinnamate		344	2022	
Allyl crotonate		2222	-	
Allyl cyclohexylacetate		2070	2023	
Allyl cyclohexylbutyrate		283	2024	
Allyl cyclohexylhexanoate		2180	2025	
Allyl cyclohexylpropionate		2223	2026	
Allyl cyclohexylvalerate		474	2027	
Allyl 2-ethyibutyrate		281	2029	
Allyl furoate	B2	360	2030	
Allyl heptanoate	B2	369	2031	
Allyl hexanoate	B2	2181	2032	
Allyl hexenoate	B2	610	-	
Allyl-a-ionone	B2	2040	2033	
Allyl isovalerate	B2	2098	2045	
Allyl nonanoate	B2	390	2036	
Allyl octanoate	B2	400	2037	
Allyl phenoxyacetate	B2	228	2038	
Allyl phenylacetate	B2	2162	2039	
Allyl propionate	B2	2094	2040	
Allyl sOrbate	B2	2182	2041	
Allyl thiopriopionate	B2	-	3329	
Allyl tiglate	B2	2183	2043	
Allyl undecen-10-oate	B2	441	2044	
Amylheptin carbonate	B2	2172	-	
a-Amylcinnamaldehyde dimethyl acetal	B2	47	2062	
a-Amylcinnamaldehyde	B2	128	2061	

a-Amylcinnatnal acetate	B2	216	2064
a-Amylcinnamal alcohol	B2	79	2065
a-Amylcinnamal formate	B2	357	2066
a-Amylcinnamal isovalerate	B2	463	2067
2-Amyl-5 or 6-keto-l,4-dioxane	B2	2205	2076
Anisylacetone	B2	163	2672
Anisyl phenylacetate	B2	233	Fed. Reg.
Anisyl propionate	B2	426	2102
Benzaldehyde glyceryl acetal	B2	36	2129
Benzaldehyde propylene glycol acetal	B2	2226	2130
Benzilidene methyl acetone	B2	161	2734
2-Benzofurnacarboxaldehyde	B2	2247	3128
Benzoin	B2	162	2132
Benzyl butyl ether	B2	520	2139
Benzyl-2,3-dimethyl crotonate	B2	2187	2143
Benzyl-4-heptanone	B2	2140	2146
Benzyl isobutyl carbinol	B2	2031	2208
Benzyl isobutyl ketone	B2	159	2740
Benzyl isoeugenol	B2	522	-
Benzyl phenylacetate	B2	232	2149
Benzyl propyl carbinol	B2	83	2953
Benzyl ethyl carbinol	B2	2137	-
Benzylidenmethional	B2	-	-
Butan-2-one-2-yl butanoate	B2	-	3332
Butyl acetoacetate	B2	241	2176
2-Butyl-2-butenal	B2	-	3392
1,2-Butanedithiol	B2	11909	3528
1,3-Butanedithiol	B2	11910	3529
2,3-Butanedithiol	B2	-	3477
Butyl anthranilate	B2	252	2181
Butyl butytylglycollate	B2	21	-
Butyl butyryllactate	B2	2107	2190
Butyl ethyl malonate	B2	384	2195
Butyl levulinate	B2	374	2207
Butyl phenylacetate	B2	2159	2209
Butyl salicylate	B2	614	3650
Butyl 10-undecenoate	B2	2103	2216
2-sec-Butylcyclohexanone	B2	-	3261
2-Butyl-5 or 6-keto-l,4-dioxane	B2	2206	2204
a-Butylcinnamaldehyde	B2	127	2191
2-(2-Butyl)-4,5-dimethyl-3-thiazoline	B2	-	3619
Caffeine	B2	-	-
Carvacryl ethylether	B2	2057	2246

Carvyl proplonate	B2	424	2251
Caryophyllene alcohol acetate	B2	-	Fed.Reg.
Cedryl acetate	B2	527	-
Cinnamaldehyde ethyleneglycol	B2	48	2287
Cinnamyl anthranilate	B2	255	2295
Cinnamyl phenylacetate	B2	235	2300
Cinnamyl isobutyrate	B2	496	2297
Citral diethyl acetal	B2	38	2304
Citral dimethyl acetal	B2	39	2305
Citral propylene glycol acetal	B2	4064	-
Citronellvl oxvacetaldehvde	B2	2012	2310
Citronellyl phenylacetate	B2	2157	2315
Cinnamyl formate	B2	352	2299
Cinnamyl propionate	B2	414	2301
Cyclocitral	B2	10326	3639
		11849	
Cyclohexanecarboxylic acid	B2	11911	3531
Cyclohexvl acetate	B2	217	2349
Cyclohexvl butyrate	B2	2082	2351
Cyclohexvl formate	B2	498	2353
Cyclohexvl hexanoate	B2	528	-
Cyclohexvl isovalerate	B2	459	2355
Cyclohexylinethyl Pyrazine	B2	-	3631
Cyclohexyl propionate	B2	421	2354
Cyclohexylacetic acid	B2	34	2347
Cyclohexyl anthranilate	B2	257	2350
Cyclohexyl cinnamate	B2	337	2352
Cyclohexylethyl acetate	B2	218	2348
Cyclohexyl mercaptan	B2	529	-
Cyclopentanethiol	B2	-	3262
-Damascone	B2	-	3622
-Decalactone	B2	-	3613
Decanal dimethyl acetal	B2	43	2363
Dehydrodihydroionone	B2		3447
Diallyl polysulfides	B2	11912	3533
1,2-Di[(l'-ethoxy)-ethoxy]propane	B2	-	3534
Diethyl sebacate	B2	623	2376
Dimethylbenzylcarbinyl acetate	B2	2077	2392
Dimethylbenzylcarbinyl isobutyrate	B2	2084	2394
4,5-Dimethyl-2-ethyl-3-thiazoline	B2	-	3620
4,5-Dimethyl-2-isobutyl-3-thiazoline	B2	-	3621
2,6-Dimethyl-3-[(2-methyl-3-furyl)thio]	B2		
-4-heptanone		11915	3538

a, a-Dimethylphenethyl formate	B2	353	2395	
3,7-Dimethyl-2,6-octadienyl 2-ethylbutyrate	B2	-	3339	
Debydrodihydroionol	B2	-	3446	
Dibenzyl disulflde	B2	4077	-	
Dibenzyl ketone	B2	2054	2397	
Dibenzyl ether	B2	2150	2371	
Di-(butan-3-one-l-yl) sulfide	B2	-	3335	
4,4-Dibutyl-y-butyrolactone	B2	2231	2372	
Dibutyl sebacate	B2	622	2373	
Dicyclohexyl disulfide	B2	-	3448	
5,7-Dihydro-2-methylthiano (3,4-D)pyrimidine	B2	-	3338	
2,4-Dimethyl-5-acetylthiazole	B2	-	3267	
2,4-Dimethylbenzaldehyde	B2	-	3427	
2,5-Dimethyl-2,5-dihydroxy-l,4-dithiane	B2	-	3450	
2,5-Dimethyl-3-furanthiol	B2	-	3451	
bis-(2,5-Dimethyl-3-£uryl)disulfide	B2	-	3476	
2,5-Dimethyl-3-thiofuroylfuran	B2	-	3481	
2,5-Dimethyl-3-thioisovalerylfuran	B2	-	3482	
2,6-Dimethyl-4-heptanol	B2	4030	3140	
2,6-Dimethyl-5-heptenal	B2	2006	2389	
2,6-Dimethyloctanal	B2	112	2390	
2,4-Dimethyl-2-pentenoic acid	B2	4081	3143	
Dimethyl phenyl carbinyl isobutyrate	B2	4240	23	
Dimethyl phenylethyl carbinyl acetate	B2	219	2735	
Dimethyl phenylethyl carbinyl isobutyrate	B2	2086	2736	
Diphenyl disulfide	B2	4085	3225	
spiro-(2,4-Dithia-l-methyl-8-oxabbicyclo(3.3.0)				
octane-3,3-(l'-oxa-2'-methyl)cyclopentane) and				
apiro (2,4-dithia-6-methyl-7-oxabicyclo(3.3.0)				
octane-3,3'-(l'-oxa-2'-methyl)cyclopentane)	B2	-	3270	
2,2-Dithiodithiophene	B2	-	3323	
Dodeca-3,6-dional	B2	2121	-	
-Dodecalactone	B2	-	3610	
Dodecyl isobutyrate	B2	-	3452	
Estragole	Bl	-	-	5
p-Ethoxybenzaldehyde	B2	626	2413	
7-Ethoxy-4-methy1-coumarine	B2	2193	-	
o-(Ethoxymethyl)phenol	B2	-	3485	

2-Ethoxythiazole	B2	-	3340	
Ethyl aconitate	B2	2108	2417	
Ethyl 2-acetyl-3-phenylpropionate	B2	2241	2416	
Ethyl benzoylacetate	B2	627	2423	
a-Ethylbenzyl butyrate	B2	628	2424	
2-Ethylbutyl acetate	B2	215	2425	
Ethyl butyryllactate	B2	2242	-	
Ethyl cresoxyacetate	B2	2243	3157	
Ethyl eyelohexanecarboxylate	B2	11916	3544	
Ethyl cyclohexylpropionate	B2	2095	2431	
Ethyl 2,4-dioxohexanoate	B2	-	3278	
Ethyl N-ethylanthranilate	B2	629	-	
Ethyl 2-ethyl-3-phenylpropanoate	B2	-	3341	
Ethyl 8-furfuryl-8-thiopropionate	B2	-	-	
Ethyl furfuracrylate	B2	545	-	
Ethyl furylpropionate	B2	2091	2435	
2-Ethyl-2-heptenal	B2	120	2438	
Ethyl-iso-eugenol	B2	190	2472	
Ethyl 2-mercaptopropionate	B2	-	3279	
Ethyl 2-methylpentanoate	B2	-	34	
Ethyl 2-methyl-4-pentenoate	B2	10613	3489	
Ethyl(4-emthylthio)-butyrate	B2	-	-	
Ethyl nitrite	B2	2190	2446	
Ethyl octine carbonate	B2	480	2448	
Ethyl 4-phenylbutyrate	B2	307	2453	
Ethyl phenyl carbinyl butyrate	B2	628	2424	
Ethyl 3-phenyl glycidate	B1	2097	2454	3
Ethyl thioacetate	B2	-	3282	
2-Ethylthiophenol	B2	-	3345	
Ethyl 10-undecenoate	B2	2102	2461	
Ethylene tridecanedioate	B2	4094	-	
3-Ethyl-2-hydroxy-4-methyl-cyclopent-2-en-l-one	B2	-	3453	
5-Ethyl-2-hydroxy-3-methyl-cyclopent-2-en-l-one	B2	-	3454	
N-Ethyl-2-isopropyl-5-methyl-cyclohexanecarboxamide	B2	-	3455	
Ethyl-2-methyl-3-pentenoate	B2	-	3456	
2-Ethyl-l, 3,3-trimethylr2-norbomanol	B2	-	3491	
Eugenyl formate	B2	355	2473	
Eugenyl methylether	B1	-	-	5, 7
2-Furanmethanethiol formate	B2	4112	3158	
2-Furfurylidene butanal	B2	2251	2492	
Furfuryl isopropyl sulphide	B2	2248	3161	

Furfuryo thiopropionate	B2	-	3347
Geranyl acetoacetate	B2	243	2510
Geranyl phenylacetate	B2	231	2516
Glucose pentaacetate	B2	-	2524
Guaiyl acetate	B2	552	-
Heptanal dimethyl acetal Heptana1	B2	2015	2541
glyseryl acetal(2-hexyl-4-hydroxymethyl-1,3-dioxolan and 2-hexyl-5-hydroxy-l,3-dioxane)	B2	2016	2542
4-Heptanol	B2	555	-
Heptyl cinnamate	B2	2104	2551
3-Heptyp-5-methyl-2(3H)furanone	B2	-	3350
trans-3-Heptenyl acetate	B2	-	3493
trans-3-Heptenyl-2-methylpropanoate	B2	-	3494
Hexyl 2-methyl-3(4)-penten e	B2	-	-
a-Hexylcinnamaldehyde	B2	129	2569
Hexyl 2-furoate	B2	361	2571
2-Hexylidene cyclopenthanone	B2	167	2573
Hydroquinone monoethyl ether	B2	2258	-
Hydroxycitronellal	B2	100	2583
Hydroxycitronellal diethyl acetal	B2	44	2584
Hydroxycitronellal dimethyl acetal	B2	45	2585
Hydroxycitronellol	B2	559	2586
2-Hydroxy-2-cyclohexen-l-one	B2	-	3458
2-Hydroxymethy1-6, 6-dimethyl-bicydo (3.1.1.)hept-2-enyl formate	B2	-	3405
2-Hydroxy-3,5,5-trimethy 1-2-cydohexenone	B2	-	3459
6-Hydroxy-3,7-dimethylocatnoic acid lactone	B2	-	3355
3-(Hydroxymethy1)2-heptanone	B2	592	2804
3-(Hydroxymethy1)-2-octanone	B2	-	3292
Isoamyl acetoacetate	B2	227	3551
Isoamyl cinnamate	B2	335	2063
Isoamyl pyruvate	B2	431	2083
IsobOrnyl acetate	B2	2066	2160
Isobornyl butyrate	B2	564	-
Isobornyl phenylacetate	B2	566	-
Isobutyl acetoacetate	B2	242	2177
Isobutyl anthranilate	B2	253	2182
Isobutyl benzyl carbinol	B2	2031	2208
Isobutyl cinnamate	B2	327	2195
Isobutyl N-methylanthranilate	B2	649	-
Isobutyl salicylate	B2	434	2213

Isojasmone	B2	167	3552
beta-Isomethyl ionone	B2	650	-
cis-5-Isopropenyl-cis-2-	B2	-	-
methylcyclopentan-1- carboxaldehyde	B2	-	3645
Isopropyl cinnamate	B2	325	2939
Isopropyl phenylacetate	B2	2158	2956
Isopropyl tiglate	B2	-	3229
y-Ionone	B2	4139	3175
Isoamyl furylbutyrate	B2	2080	2070
Isoamyl furylpropionate	B2	2092	2071
Isobornyl formiate	B2	565	2162
Isobornyl isovalerate	B2	452	2166
Isobornyl propionate	B2	412	2163
Isobutyl furylpropionate	B2	2093	2198
Isoegenyl butylether	B2	2151	-
Isoegenyl formate	B2	356	2474
Isoegenyl phenylacetate	B2	237	2477
Iso-a-methylionone	B2	169	2714
p-Isopropyl phenyl acetaldehyde	B2	132	2954
3-(p-Isopropyl)-phenyl propanal	B2	2261	2957
Isoquinoline	B2	4871	2978
2-Keto-4-butanethiol	B2	-	3357
Licorice	B2	-	-
Linalyl anthranilate	B2	256	2637
Linalyl cinnamate	B2	329	2641
Linalyl phenylacetate	B2	-	3501
Malty1 isobutyrate	B2		3462
3-Mercapto-2-butanol	B2	-	3502
2-Mercapto thiophene	B2	478	-
5 or 6-Methoxy-3-ethyl-pyrazine	B2	-	3280
5 or 6-Methoxy-3-methyl-purazine	B2	-	3183
2-Methoxy-5 or 6-isopropylpyrazine	B2	11344	3358
4-Methyl-5-(beta-acetoxy ethyl)thiazole-	B2		
3-			
methyl-5-ethylpheno	B2	580	-
Methyl thiazol acetate	B2	-	3205
2-Mercapto-3-butanol	B2	-	3502
3-Mercapto-2-butanone	B2	-	3298
3-Mercapto-2-pentanone	B2	-	3300
2,3 or 10-Mercaptopinane	B2	-	3503
2-Mercaptopropionic acid	B2	4156	3180
l-(p-Methoxyphenyl)-l-penten-3-one	B2	164	2673
Methoxypyrazine	B2	-	3302

p-Methylbenzyl acetone	B2	160	3074	
a-Methylbenzyl butyrate	B2	2083	2686	
Methylbenzyl disulphide	B2	-	3504	
a-Methylbenzyl formate	B2	574	26	
a-Methylbenzyl isobutyrate	B2	20	2687	
a-Methylbenzyl propionate	B2	425	2689	
4-Methylbiphenyl	B2	2292	3186	
p-Methylcinnamaldehyde	B2	10352	3640	
2-Methyl-3,5 or 6-ethoxy-pyrazine	B2	11921	3569	
3-[(2-Methyl-3-furyl)-thio]-4-heptanone	B2	11922	3570	
4-[(2-Methyl-3-furyl)-thio]-5-nonanone	B2	11923	3571	
Methyl p-tert-butylphenylacetate	B2	577	2690	
d-Methylcinnamaldehyde	B2	578	2697	
6-Methyleoumarin	B2	579	2699	
Methyl decine carbonate	B2	2111	2751	
Methyl-beta-naphthyl Ketone	B1	-	-	7
2-Methyl-3-furanthiol	B2	4172	31	
Methyl furfuraerylate	B2	2267	-	
2-Methyl-3,5 or 6-furfuryl-thiopyrazine	B2	(2287)	3189	
3-(5-Methyl-2-furyl)butanal	B2	-	3307	
bis(2-Methyl-3-furyl)disulfide	B2	-	3259	
bis(2-Methy1-3-furyl)tetrasulfide	B2	-	3260	
Methyl heptine carbonate	B2	481	2729	
5-Methyl-5-hexen-2-one	B2	-	3365	
a-Methyl ionone	B2	143	2711	
a~Methyl-beta-hydroxypropyl-(a~methyl-beta-	B2	-	-	
mercaptopropyl)sulphide	B2	-	3509	
2-Methyl-3-(p-isopropylphenyl)-propion-	B2	-	-	
aldehyde (Cyclamen aldehyde)	B2	133	2743	
Methyl 2-methyl-3-furyl disulfide	B2	11924	3573	
4-Methyl-2-pentyl-l,3-dioxolane	B2	-	3630	
2-Methyl-4-phenyl-2-butanol	B2	10281	3629	
4-(Methylthio)butanol	B2	-	3600	
2-Methylundecanal	B2	2010	2749	
Methyl-iso-butylcarbinyl acetate	B2	2073		
Methy1-beta-ionone	B2	144	2712	
Methyl-delta-ionone	B2	2145	2713	
a-Methyl-p-methoxy-cinnamaldehyde	B2	584	3182	
2-Methyl-5-methoxythlazole	B2	4034	3192	
Methyl 4-(methylthio)butyrate	B2	-	3412	
2-Methyl-4-(methylthio)furan	B2	-	3366	
2-Methyl-3,5 or 6-methylthio-pyrazine	B2	(2290)	3208	

2-Methyloctanal	B2	113	2727	
Methyl octine carbonate	B2	479	2726	
2-Methyl-4-pentenoic acid	B2	-	3511	
2-Methyl-4-phenylbutanal	B2	134	2737	
3-Methy1-2-phenylbutanal	B2	135	2738	
Methyl 4-phenylbutyrate	B2	308	2739	
3-Methyl-5-propyl-2-cydohexen-l-one	B2	4178	3577	
2-(2-Methylpropyl)pyridine	B2	-	3370	
3-(2-Methylpropyl)pyridine	B2	-	3371	
2-(l-Methylpropyl)thiazole	B2	-	3372	
Methyl styryl carbinol	B2	2032	20	
3-Methylthiobutanal	B2	-	3374	
4-Methylthiobutanal	B2	-	3414	
4-Methylthio-2-butanone	B2	-	3375	
Methyl thiofuroate	B2	-	3311	
3-Methylthio-l-hexanol	B2	-	3438	
4-Methylthio-4-methyl-2-pentanone	B2	-	3376	
2-Methyl-3-toly1-propanal	B2	587	2748	
Musk ambrette	B2	495	2758	
2-Naphthalenthiol	B2	-	3314	
beta-Naphtyl anthranilate	B2	2170	2767	
beta-Naphtyl ethylether	B2	2058	2768	
beta-Naphtyl methyl ketone	B1	147	2723	5
beta-Naphtyl isobutyl ether	B2	2273	-	
2,6-Nonadienal diethyl acetal	B2	660	3378	
1,9-Nonanedithiol	B2	-	3513	
Nonanoyl 4-hydroxy-3-methoxybenzylamlde	B2	590	2787	
1,3-Nonanediol acetate	B2	2075	2783	
1,4-Nonanediol diacetate	B2	11927	3579	
3-Nonanon-l-yl acetate	B2	2076	2786	
2-trans-6-trans-Octadienal	B2	-	3466	
Octanal dimethyl acetal	B2	42	2798	
3-Octen-2-ol	B2	-	3602	
1,8-Octanedithiol	B2	-	3514	
6-Octenal	B2	664	-	
Octyl formate	B2	342	2809	
Octyl heptanoate	B2	366	2810	
Octyl phenylacetate	B2	230	2812	
Paraldehyde	B2	594	-	
Phenethyl anthranilate	B2	258	2859	
Phenethyl 2-furoate	B2	362	2865	
Phenethyl senecloate	B2	246	2869	

Phenoxyacetic acid	B2	2005	2872	
Phenylacetaldehyde 2,3-butylene glycol acetal	B2	669	2875	
Phenylacetaldehyde glyceryl acetal	B2	41	2877	
2-Phenyl-3-(2-furyl)-prop-2-enal	B2	11928	3586	
l-Phenyl-2-methyl-propan-2-yl butyrate	B2			
Phenylethyldimethylcarbinyl isobutyrate	B2	2086	2736	
3-Phenylpropyl formate	B2	351	2895	
3-Phenylpropyl hexanoate	B2	321	2896	
3-Phenylpropyl isovalerate	B2	462	2899	
3-Phenylpropyl propionate	B2	419	2897	
l-Phenyl-3(5)-propylpyrazole	B2	2277	-	
Piperonyl formate	B2	2154	-	
Pentyl 2-furyl ketone	B2	-	3418	
Phenoxyethyl isobutyrate	B2	2089	2873	
4-Phenyl-2-butyl acetate	B2	671	22	
2-Phenyl-3-carbethoxy-furan	B2	-	3468	
Phenylethyl methyl carbinol	B2	85	2879	
Phenylethyl methyl ethyl carbinol	B2	86	2883	
5-Phenylpentanol	B2	674	-	
3-Phenyl-4-pentenal	B2	-	3318	
2-Phenyl-4-pentenal	B2	-	3519	
2-Phenyl-l-propanol	B2	2257	2732	
2-Phenylpropanal dimethyl acetal	B2	2017	28	
1,2-Propanedithiol	B2	-	3520	
2-Phenylpropionaldehyde	B2	126	26	
1-Pheny1-2-propyl butyrate	B2	2276	3197	
2-Phenylpropyl butyrate	B2	285	2891	
3-Phenylpropyl cinnamate	B2	597	-	
2-Phenylpropyl isobutyrate	B2	2087	2892	
2-(3-Phenylprbpyl) tetrahydrofurane	B2	489	2898	
Piperonyl acetate	B2	2068	2912	
Piperonyl acetone	B2	165	2701	
Piperonyl isobutyrate	B2	305	2913	
Propenylguaethol	B2	170	2922	
p-Propyl anisole	B1	2026	2930	5
Propyl cinnamate	B2	324	2938	
Propylene glycol dibenzoate	B2	-	3419	
Propyl 2-methyl-3-furyl disulfide	B2	-	3607	
Propyl furylacrylate	B2	2090	2945	
3-Propylidenephtalide	B2	494	2952	
o-Propylphenol	B2	-	3522	
Propyl thloacetate	B2	-	3385	

Pseudocyclocitral	B2	2133	-
Pyrazine ethanethlol	B2	(2285)	3230
Pyrazine methanethiol	B2	-	3299
Pyrazinyl methyl sulfide	B2	(22)	3231
2-Pyridine methanethiol	B2	2279	3232
Quinine hydrochloride	B2	-	-
Quinine sulfate	B2	-	-
Resorcinol dimethyl ether	B2	189	2385
Rhodinyl acetate	B2	223	2981
Rhodinyl phenylacetate	B2	2163	2985
Santalyl phenylacetate	B2	239	3008
Sucrose octa acetate	B2	4219	FDA/GRAS
Terpinyl isobutyrate	B2	300	3050
Tetrahydrofurfuryl acetate	B2	2069	3055
1,5,5,9-tetramethyl-13-oxatri-cyclo(8,3,0,04,9) tridecane	B2	-	3471
Tolualdehyde glyceryl acetal	B2	46	3067
p-Tolylacetaldehyde	B2	130	3071
o-Tolyl acetate	B2	2078	3072
p-Tolyl isobutyrate	B2	304	3075
p-Tolyl phenylacetate	B2	236	3077
Trideca-4,7-dienal	B2	684	-
a-Terpinyl anthranilate	B2	259	3048
Terpinyl cinnamate	B2	330	3051
Tetrahydrofurfuryl butyrate	B2	2081	3057
Tetrahydrofurfuryl cinnamate	B2	4224	3320
Tetrahydrofurfuryl propionate	B2	2096	3058
Tetrahydrolinalobl	B2	77	3060
Tetrahydro-pseudo-ionone	B2	2053	3059
Tetramethyl ethylcyclohexenone	B2	168	3061
Thiogeraniol	B2	-	3472
Thioguaiacol	B2	2219	-
2-(p-Tolyl)-propanal	B2	131	3078
2,6,6-Trimethy1-1-cyclohexen-1-acetaldehyde	B2	-	3474
3,5,5-Trimethylhexanal	B2	-	3524
3,5,5-Trimethy1-1-hexanol	B2	-	3324
l,2,3-Tris[(l'-ethoxy)-ethoxy]-propane	B2	11930	3593
9-Undecenal	B2	123	3094
10-Undecenal	B2	122	3095
10-Undecen-l-yl acetate	B2	2062	3096
Vanillin acetate	B2	225	3108
Vanillidene acetone	B2	691	-

	Vetiveryl acetate	B2	2284	-	
9.	FLAVOUR ENHANCERS				
	Aspartate, monosodium	B2			
	Glutamate, L-Arginine	B2			
	Glutamate, L-Lysine	B2			
10	.MISCELLANEOUS				
	Acetone peroxide	B2			
	Beexwax	B2			
	Carnauba wax	B2			
	Condensed tannins	B2			
	Diethyline glycol manoethyl ether	B1			6
	Dioctyl sodium sulphosuccinate	B1			3, 6
	Glycerol esters of wood rasin	B1			1, 4
	Licorice	B2			
	Maltitol	B2			
	Saccharate of lime	B2			
	Shellac	B2			
	Sodium Thiocyanate	B1			11
	Sorbitol	B1			8
	Sorboyl palmitate	B1			1, 4
	Sucrose acetate isobutyrate	B1			3, 8
	Thermally oxidized soyabean oil	B1			9
	Wood flour	B2			
11.	PROCESSING AIDS				
	Asbestos	B2			
	Bentonite	B1			4
	Diatomaceous earth	B1			3
	Perlite	B2			
12	PRESERVATIVES				
	Calcium metabisulfite			B1	9
	Parahydroxybenzoate, butyl			B2	

REFERENCES

1. Evaluation of Certain Food Additives (Eighteenth Report of the Expert Committee). FAO Nutrition Meeting Report Series No. 54, 1974; WHO Technical Report Series No. 557, 1974 and Corrigendum.

2. Evaluation of Certain Food Additives (Twenty-second Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 631, 1978.

3. Evaluation of Certain Food Additives (Twenty-first Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 617, 1978.

4. Evalution of Certain Food Additives (Twentieth Report of the Expert Committee). FAO Food and Nutrition Series No. 1,1976). WHO Technical Report Series No. 599, 1976.

5. Evaluation of Certain Food Additives (Twenty-third Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 648, 1980.

6. Evaluation of Certain Food Additives (Twenty-fourth Report of the Joint FAO/WHO Committee on Food Additives). WHO Technical Report Series No. 653, 1980.

7. Evaluation of Certain Food Additives (Twenty-fifth Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 669, 1981.

8. Evaluation of Certain Food Additives (Twenty-sixth Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 683, 1982.

9. Evaluation of Certain Food Additives (Twenty-seventh Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 696, 1983.

10. Evaluation of Certain Food Additives (Twenty-eigth Report of the Joint FAO/WHO Expert Committee on Food Additives). WHO Technical Report Series No. 710, 1984)

11. Evaluation of Certain Food Additives (Twenty-ninth Report of the Joint FA0/WH0 Expert Committee on Food Additives). WHO Technical Report Series No.)

CODEX LIST (C) OF FOOD ADDITIVES

Codex List 'C' of Food Additives are subdivided into Lists C_1 and C_2. List C_1 contains those food additives which, in the opinion of JECFA, are unsafe in food. List C_2 contains those food additives which, in the opinion of JECFA, should he restricted to certain specified uses.

Lists C_1 and C_2 are given below.

LIST CI OF FOOD ADDITIVES

Food Colours		Reference[1]
Auramine,	CI 41000	10
Benzvlviolet 4B,	CI 42640	44
Rutter yellow	CI 11020	10
Chrysoidine	CI 11270, 11270B	10
Citrus Red 2	CI 12156	20
Guinea Green B	CI 42085	10
Magenta	CI 42510	10
Oil Orange 5 5	CI 12100	10
Oil Yellow XO	CI 12140	10
Oil Yellow AB	CI 11380	10
Oil Yellow OR	CI 11390	10
Ponceau 3R	CI 16155	10
Ponceau SX	CI 14700	10
Sudan I	CI 12055	10
Others		50
Renzene		6
Borax		6
Roric acid		22
Brominated Vegetable Oils		19
Chlorate, Potassium		50
Chloroform		50
Dichloroethane		50
Diethylene glycol		32
Diethylpyrocarbonate		56
Hydrocyanic acid		11
Iodates, Calcium, Potassium		11
Nitrofurazone		14,15
P-Phenethylcarbamide (Syn: Dulcin, 4-ethoxy phenylurea)		
Salicylic acid and its salts		6

[1] References are given in Annex 1 of any recent report of JECFA issued as WHO Technical Report Series.

LIST C_2 OF FOOD ADDITIVES

Hydrogen Peroxide	Restricted for use as an emergency measure for the preservation of milk.	32, 33

ALINORM 87/12
APPENDIX VII

REPORT OF THE AD HOC WORKING GROUP ON FLAVOURS

1. The following participated in the meeting (See Appendix I for Addresses).

J.P. Goddijn	- Netherlands (Chairman)
B. Evenhuis	- Netherlands
A. Holm Olsen	- Denmark
O.D. Easterday	- USA
J.C. Howell	- USA
A. Eisenberg	- Israel
J. Stofberg	- IOFI
F. Grundschober	- IOFI
J.A. Drum	- Canada
D.C. Kirkpatrick	- Canada
J.A. Cremades	- Council of Europe
J. Horton	- U.K.
E. Quattrucci	- Italy
R.K. Reinton	- Norway
T. Hellstrom	- Norway
R. Haigh	- E.E.C.
Ch. Crémer	- Belgium
K. Jones	- Fed. Rep. of Germany
W.E.J. Salzer	- " " " "
H.E. Muermann	- " " " "
W. Hellwillor	- " " " "
H. Krönert	- " " " "
M.P. Ostendorf	- " " " "
R.H. Murray	- CIAA
Ph. Mouton	- CIAA
T. Kappeler	- Switzerland
E. Matthey	- Switzerland
P. Rossier	- Switzerland
A. Hallikainen	- Finland
S. Valvassori	- FIVS
R. Kumton	- Thailand
P. Pothisiri	- Thailand
L.G. Ladomery	- FAO
N. Rao Maturu	- FAO

General requirements for natural flavourings

2. The Group discussed the General Requirements for Natural Flavourings as reproduced in the Annex to Document CX/FA 85/6 and adopted the following modifications:

1. Scope

Thermal process flavourings are excluded.

2.1.1 Natural flavourings

"Natural flavourings" are products used to impart flavour to a food or beverage - with the exception of only salty, sweet or acid tastes. Their aromatic part consists exclusively of "natural flavours" and/or "natural flavouring substances" and they may or may not contain adjuncts. They are not intended to be consumed as such.

3. Food Additives

"Natural flavourings" may contain food additives (including carriers) as far as these are necessary for the production, storage and application of the flavourings and as far as these are present in amounts which would not perform a technological function in the finished food.

6.1.d The adjuncts used shall be listed on the label.

7. Methods of Analysis and Sampling

(References for relevant methods of analysis will be given).

3. In addition, the Group noted that the US and Denmark had further comments on certain biologically active substances, but decided to consider these and other comments at the next stage.

Inventory of official lists of aromatic source materials

4. Detailed written comments from the US were distributed at the meeting and presented by the delegation of the US. The proposal to prepare an extensive Codex list of source materials was not supported by the Group. However, corrections and additional references of the US Fed. Reg. were made and it was agreed that additional references from Canada should be included. A list of source materials submitted by Thailand was also considered..

CODEX LIST B

5. An updated version of the Codex List B, as reproduced in ALINORM 85/12, Appendix V, Part 8 was considered. The revised list contained synthetic flavouring substances in a new presentation. The Group accepted the presentation, including the addition of certain new substances and the deletion of

isoeugenyl butylether
methyl-5-ethylphenol
piperonyl formate
trideca-4,7-dienal

6 The Group recommended that the amended list be reproduced in the report of the Committee.

Setting of priorities

7. The members of the Group received a copy of the results of a survey on the volume of use of artificial flavouring substances provided by IOFI. Another paper by J. Stofberg and F. Grundschober, calculating consumption Ratios of about 400 nature-identical flavouring substances was also distributed.

8. The Group discussed this approach for the setting of priorities for further evaluation. It was agreed that the first priority should be the evaluation of the artificial flavouring substances. Volume of use and structure - activity considerations should be used for establishing a ranking order.

9. The second priority should be the evaluation of nature-identical flavouring substances. The Group confirmed the previous endorsement of the consumption ratio concept. The Group noted that the US had detailed Information available which could be of particular use for the work of a FAO/WHO group of experts to be convened. It was suggested, that this group of experts should not only deal with priority setting, but could also reach conclusions on the acceptability of many flavouring substances.

10. The Group noted with satisfaction that in addition to IOFI, also the Commission of the EEC And FIVS Will provide quantitative data on natural occurrence of flavouring substance which will contribute to the calculation of consumption. $$$ Group of Experts is convened it was agreed the Group should continue its current activities.

AD HOC WORKING GROUP ON PROCESSING AIDS

1. The following participated in the meeting (See Appendix I for addresses):

J. Ronk	-	USA
R. Nally	-	USA
S. Gardner	-	IFGMA
C. Feldberg	-	USA
J.L. Mahler	-	AMFEP
A. Hallikainen	-	Finland
R.K. Reinton	-	Norway
G.M. Koornneef	-	Netherlands
C. Rioux	-	France
J.A. Drum	-	Canada
P.F. Hopper	-	USA
T. Kappeler	-	Switzerland
P. Rossier	-	Switzerland
P. Kuhnert	-	Fed. Rep. of Germany
W. Krönert	-	" " " "
P. Sträter	-	" " " "
H. Hilpert	-	" " " "
C.G. vom Bruck	-	" " " "
S. Langguth	-	" " " "
T. Hellstrom	-	Norway
A.H. Olsen	-	Denmark
A. De Cean	-	Australia
J.S. Fraser	-	New Zealand
D.C. Klrkpatrick	-	Canada
P.B. Czedik-Eysenberf	-	Austrla/IVPAC
J.C.Hammond	-	U.K.
Ch. Crémer	-	Belgium
I.R. de Moraes		Brazil
N. Rao Maturu	-	FAO
M. Fondu	-	CIAA
R. Haigh	-	EEC
G. Vettorazzi	-	WHO
A.W. Randell	-	FAO
A.E. Dunaif	-	USA

2. Purpose and Status of Processing Aids

The purpose and status of processing aids was discussed within the working group. The group agreed that the Codex definitions of the terms "processing aids" and "food additive" should be read together in order to get a more complete understanding of the differences between them. In considering these differences, it is clear that processing aids do not have a technical effect in the finished product.
It was also determined that we should continue to develop an open inventory of processing aids which would be useful to food technologists and would also help to identify residues of processing aids, including their metabolites or reaction products. Such residues could then be prioritized in order of safety concerns for JECFA's reiview if needed. This approach may result in a restricted list of processing aids being published in Part 14 of the Codex Manual. It was also suggested a circular letter be issued requesting data collection of residues. As previously noted by the CCFA, processing aids do not have to be labelled; it is not the purpose of the inventory or the data collection to decide labelling issues.

3. Comments on Revised Inventory

As indicated in CX/ FA 85/12 Add. 1 comments were submitted by a number of governments and international organizations and these will be incorporated into the inventory as appropriate.
The group agreed that the USA would continue to review the inventory of processing aids to determine if they are used primarily as processing aids or food additives, and would report back at the next Working Group meeting. In addition, information received regarding residues of processing aids would be incorporated into the inventory.

4. Information on Uses of Asbestos

It appears that the use of this material is being phased out. In addition the USA indicated that because of high background environmental contamination of asbestos it is not possible to determine the contribution of asbestos filters to the total asbestos fiber content of foods. Therefore, it was suggested that it is unnecessary for JECFA to review asbestos at this time.

5. Revised Carry Over Principle

It was the consensus of the Working Group that the carry over principle draft be moved to Step 5 and perhaps accelerated to Step 6 or 7.

6 Carry Over Principle is not applicable to Contaminants

The Working Group agreed that CCFA currently considers health implications of contamination of raw materials through its review of maximum contaminant levels for finished foods. On this basis there is no need to elaborate a "principle" on carry over of contaminants.

7. Removal of Bleaching Agents from List of Food Additives in Draft Standard for Wheat Flour

The Working Group agreed that bleaching agents are food additives rather than processing aids and the issue of flour treatment agents should be returned to the Cereals, Pulses and Legumes Committee and the Commission for appropriate

revision. The inventory of processing aids also will be revised to reflect this decision.

8. Consideration of Enzymes as Processing Aids

In general, enzymes are processing aids, but in a few cases are food additives. The group felt that the Working Group on Processing Aids was not the committee to review the issue of class names for enzymes. It was suggested the labelling Committee decide how those enzymes when they act as food additives should be labelled.

9. Toxicological Criteria

It was the view of the Working Group that there are situations such as was done with 2-nitropropane that JECFA will be asked not for a specific ADI but rather for approval of the use of a processing aid for a particular food system. This is also similar to the way JECFA handled residues from packaging materials in the past. The Working Group reaffirmed its decision on 2-nitropropane and will in the future refer similar questions to JECFA on a case-by-case basis.

A RE-DRAFT OF THE PRINCIPLE RELATING TO THE CARRY-OVER OF FOOD ADDITIVES INTO FOODS

(At step 5)

SECTION 1 - SCOPE

For the purposes of the Codex Alimentarius, the Principle relating to the Carry-over of Food Additives into Foods (the "Carry-Over Principle") applies to the presence of additives in food as a result of the use of raw materials or other ingredients in which these additives are used.

SECTION 2 - APPLICATION

The Carry-Over Principle z to all foods covered by Codex Standards, unless otherwise specified in such standards (see Section A).

SECTION 3 - CONDITIONS UNDER WHICH THE CARRY-OVER PRINCIPLE APPLIES

The presence of an additive in food, through the application of the Carry-Over Principle, is generally permitted if:

(a) the additive is permitted in the raw materials or other ingredients (including food additives) by an applicable Codex Standard or under any other acceptable provision which takes into account the safety aspects of food additives;

(b) the amount of the additive in the raw materials or other ingredients (including food additives) does not exceed the maximum amount so permitted;.

(c) the food into which the additive is carried over does not contain the food additive in greater quantity than would be introduced by the use of the ingredients under proper technological condition or manufacturing practice, and

(d) the food additive carried over is present at a level which is non functional, i.e., at a level significantly less than that normally required to achieve an efficient technological function in its own right in the food.

SECTION 4 - SPECIAL CONDITIONS

4.1 An additive carried over into a particular food in a significant quantity or in an amount sufficient to perform a technological function in that food as a result of the use of raw materials or other ingredients in which this additive was used, shall be treated and regarded as an additive to that food, and shall be provided for in the Section on Food Additives of the applicable Codex Standard.

SECTION 5 - STATEMENTS IN CODEX STANDARDS REGARDING CARRIED OVER ADDITIVES

5.1 Where the Carry-Over Principle does not apply to a food, i.e., where the presence of additives carried over is not permitted in the food, this should be clearly stated in the relevant Codex standard using the following statement:

"no food additives shall be present as a result of Carry-Over from raw materials or other ingredients".

5.2 Where reference to the applicability of the Carry-Over Principle is specifically made in a Codex Standard, the following statement should be used:

> "Section 3 of the Principle relating to the Carry-Over of Additives into Foods shall apply".

NOTE: Extract of the Carry-Over Principle from the 13th Session of the Codex Alimentarius

The Commission concurred with the view of the Codex Committees on Food Additives and Labelling that Food additives carried over in accordance with section 3 of the Carry Over Principle would not be declared on the label in the list of ingredients.

PART I

REPORT OF THE WORKING GROUP ON SALT STANDARD

The following participated in the meeting) (See Appendix I for addresses):

M.A. Perinelli, Chairman	Italy
R. Rutishauser	Switzerland
S. Pruer aharn	Thailand
J.M. Rafols	Spain
T. Hashimoto	Japan
M. Viard	CEES
J. Enjalbert	CEES
Moinier	CEES
R. Top (rapporteur)	the Netherlands (Techn.Secr.)

1. The Chairman, Dr. M.A. Perinelli informed the members of the Working Group that the Commission had adopted the Draft Standard for food grade salt at step 8, with the exception of section 5, concerning contaminants (doc. CX/FA 85/4-page 5).

2. The Codex Committee on Food Labelling proposed to CCFA to include in section 7-8 "Bulk packs" the text of 5.3. Provisions for labelling of Non Retail Containers as contained in the Guidelines on labelling Provisions in Codex Standards. The Working Group attended to these two subjects.

Labelling

3. The Working Group decided that no other specific requirements must be included, except those included in the sections 7.1 to 7.6 of the Standard. However, the Working Group agreed to include the following text: "When salt is used as a carrier for nutrients any special conditions on the storage shall be indicated on the container".

Contaminants

4. The Chairman recalled the discussion at the last meeting of CCFA, as reported in Alinorm 85/12. At that time the Committee felt that there was more information required on actual levels of intake of salt and on the actual contaminant levels to enable a decision. To that aim a CL (1984-26FA) was sent out, which requested the required information.
The first part of the CL regarded the actual contaminant levels in salt. Responses received are contained in CX/FA 85/13. Afterwards responses from the People's Republic of China, France and Thailand were received.

5. An analysis of the answers on the basis of doc. CX/FA 85/13 A resulted in the following summary:
The arsenic content was lower than or equal to 0.5 p.p.m. in 100% of the samples.
The copper content showed a very wide range of figures. Sometimes figures of 3 p.p.m. were reported. The lead content was lower then or equal to 2 p.p.m. in most of he samples. Hungary and France reported levels higher then 2 p.p.m.
The cadmium content was lower then or equal to 0.3 p.p.m. in most of the samples. Only the Fed. Rep. of Germany reported 5% of the analysed samples to be higher. The mercury content was lower then or equal to 0.05 p.p.m. Only Thailand reported higher figures.

6. On the basis of these figures the Working Group concluded that Cu and Pb are present at high levels and as a consequence have to be considered as contaminants, but that Hg, As and Cd are present at low levels and therefore have to be considered as trace minerals, which are naturally present in salt. Moreover levels of these elements as high as the proposed figures in the draft are not yet reported.

7. The second part of the CL regarded the intake figures of salt. According to answers, received from 19 countries the average figure resulted in 10 gr per person per day. Extreme consumption data may be evaluated in the range of 20 grams. Extreme data may be the result of regional dietary habits or local specific needs. The Working Group reckognised that there is a tendency that the salt intake is decreasing in the world, due to dietary policies of governments and of new preservation techniques, like deepfreezing.

8. After consideration of the Government replies relating to their approach on the establishment of maximum contaminant levels the Working Group decided to follow the approach, also suggested by the Chairman of the Working Group on food additive intake, dr M. Fondu, who analysed the data, according to the request of the Committee at its last meeting. This approach takes the average salt intake as a basis for an international standard and compares the contaminant intake from salt, being the contaminant content at the maximum level proposed with the P.T.W.I, as established by JECFA.

The Working Group approach considered the intake for adults and did not take into account any specific local dietary habits.

9. The Working Group discussed new proposals for the drafting of section 5 of the standard. The Working Group agreed that an international standard shall provide the minimum food grade requirement, valid all over the world and agreed also that trace minerals become contaminants only if they are pesent at high levels.
Any figure established will represent upper limits of G.M.P.

10. The Working Group decided on a new text, lowering the figure for arsenic and accepting the footnote relating to the temporarily endorsement asking the Committee to invite J.F.C.M.P. to survey the contaminant consumption figures from food grade salt in order to enable any change in future. The text of the new section 5 is contained in the Annex to the Working Groups report.
The representative of Thailand agreed with the proposal, because of the results of their investigations as presented to the Working Group, although its national legislation deviated from the proposed level.

New text for Section 5 - <u>CONTAMINANTS</u>

Food grade salt may not contain contaminants in amounts and in such a form that may be harmful to the health of the consumer.

In particular the following maximum limits shall not be exceeded:

5.1. Arsenic - not more than 0.5 mg/kg expressed as As [1)]
5.2. Copper - not more than 2 mg/Kg expressed as Cu
5.3. Lead - not more than 2 mg/Kg expressed as Pb
5.4. Cadmium - not more than 0.5 mg/Kg expressed as Cd [1)]
5.5. Mercury - not more than 0.1 mg/Kg expressed as Hg [1)]

1) Temporarily endorsed

REPORT OF THE WORKING GROUP ON METHODS OF ANALYSIS AND SAMPLING FOR SALT

The following participated in the meeting (See Appendix I for addresses):

J. Rocamora	- Spain
M.A. Perinelli	- Italy
R. Rutishauser	- Switzerland
De Groot	- Netherlands
T. Haschimoto	- Japan
A. Castro	- Cuba
R. Stabel	- Norway
J.M. Rafols	- Spain
L.G. Ladomery	- FAO (Rapporteur)
S. Pruengkarn	- Thailand
B. Moinier	- CEES
J. Enjalbert	- CEES
M. Viard	- CEES

Sampling of Food Grade Salt

2. The Working Group considered a document proposed by ECSS (Ref. ECSS/SC nr. 344) entitled "Method for Sampling of Food Grade Salt for compositional criteria". The Working Group, following discussions, agreed to apply one acceptance criterium to cover all the specifications (including contaminants) in the standard and the Working Group felt that these criteria should be mandatory. On the other hand, the minimum sample sizes in relation to the batches were included only as examples for guidance. The FAO secretary indicated that this represented the first example of a practical approach in which distinction was made between acceptance criteria and sample sizes in terms of obligation falling on Governments accepting the Codex standard.

3. Regarding section 5.1 on contractual arrangements, the Working Group was of the opinion that the CCMAS should decide whether this section should be included or whether it should be taken up in another document (e.g. Codex General Guidelines).

4. The amended list of the Sampling Method will be included in a working paper for endorsement by the CCMAS.

Determination of Halogens

5. Following a request at the previous session new methods for the determination of chloride not involving mercurimetric titrations were studied by ISO. Two argentometric methods were tested (Mohr and potentiometric titration) and will be discussed and approved by ISO during early December 1985. The Working Group felt that both methods, if found acceptable by ISO, should be included in the standard to replace the mercurimetric method at present provided for.

Preference was expressed by the group for the Mohr method as Codex 'Reference' method in view of its better reproducibility and simplicity. The potentiometric titration method would be a Codex 'alternative approved method'.

Other matters

6. The Working Group noted and accepted corrections to the method ACSS/SC 312-1982 'Determination of Total Mercury Content' as follows:
The drying agent 'Ascarite' should be replaced by "soda 'asbestos' or calcium sulphate (3-5 mm, for desiccant use)" (in French: hydroxyde de sodium sur support granulé ou sulfate de calcium, 3-5 mm, pour dèssécher) as 'Ascarite' is a trade name.

ALINORM 87/12
APPENDIX XI

REPORT OF THE WORKING GROUP ON SPECIFICATIONS

The following participated in the meeting (See Appendix I for addresses):

Mr. J.P. Modderman	(Chairman, USA)	
Mr. A.W. Randell	(Secretary, FAO)	
Mr. J.F. Howlett	(Rapporteur, UK)	
Mrs M.G. Duhau	(France and secretary of ISO/TC 93)	
Mr. R. Haiah	(EEC)	
Mr. M.J. Hofstetter	(Switzerland)	
Mrs. I. Meyland	(Denmark)	
Mr. G.M. Müller	(Fed. Rep. of Germany)	
Mrs. H. Wallin	(Finland)	
Mr. A. Eisenberg	(Israel)	
Mr. A.M. Humphrey	(NATCOL)	
Mr. P. Kuhnert Mr. A. Overeem	(Fed. Rep. of Germany)	only present for part of the Session
Mr. A. Pearce	(CEFIC)	
Mrs. S. Pruengkarn	(Thailand)	
Mr. W. Pilnik	(IPPA)	
Mr. P. Rosenthal	(Fed. Rep. of Germany)	

1 The Working Group, chaired by Dr. J.P. Modderman (USA), had the following tasks:

1) consider comments on JECFA specifications published in FAO Food and Nutrition Paper No. 28, from the 27th JECFA, (CL 1983/43-FA) and
2) consider comments on JECFA specifications published in FAO Food and Nutrition Papers No. 31/1 and 31/2, from the 28th JECFA (CL 1984/42-FA).

Written comments were received from Denmark, Egypt, France, Ireland, Poland, Thailand, USA, the European Food Emulsifier Manufacturers1 Association (EFEMA), Institute Europeen des Industries de la Gomme de Caroube (INEC), International Life Sciences Institute (ILSI), Marinalg International, the CJ Patterson Co. (USA) and Sudzucker (Fed. Rep. of Germany)

2. The Working Group concluded that Codex Advisory Specifications should be published. The Working Group cited several reasons for requesting this publication:

1) there is no single summary document concerning those JECFA specifications endorsed by the Commission as Codex Advisory Specifications,
2) some Codex Advisory Specifications are editorial corrections of JECFA specifications and the editorial corrections are not published in Codex documents,
3) Codex Advisory Specifications for some substances have been revised and there may be confusion due to several references in Commission documents. to endorsements of different specifications for the same substance.
4) governments could more easily reference Codex Advisory Specifications if they were in a single publication.

Furthermore the Working Group concluded that the publication should be in loose-leaf form.

3. The Working Group considered the specifications and methods of analysis elaborated at the 27th and 28th Sessions of JECFA in the light of the written comments received in response to CL 1983/43-FA and CL 1984/42-FA. In assessing the suitability of the monographs for adoption as Codex Advisory Specifications the Group found it necessary to amend the categories used at previous CCFA sessions. Specifications were classified in terms of the following five categories:

Category I	-	Specifications which are suitable for submission to the Commission for final adoption as Codex Advisory Specifications.
Category II	-	Specifications which will be suitable for submission to the Commission for final adoption as Codex Advisory Specifications, when editorial changes have been made.
Category III	-	Specifications which require substantive changes before they are considered suitable as Codex Advisory Specifications and which should be held at Step 2 pending further advice from JECFA.
Category IV	-	Specifications which have been revised by recent sessions of JECFA.
Category V	-	Specifications which are incomplete and have been designated by JECFA as tentative.

4. The categories listed above are different from those used at previous sessions in the following respects:

1) In Category I, specifications which supercede Codex Advisory Specifications approved by the Committee at previous Sessions are designated by the symbol A. The Working Group recommends that the former Codex Advisory Specifications for these substances should be withdrawn.

2) For Category II, the definition for this category has been changed from "minor editorial corrections" to "editorial changes". The Working Group found it necessary to make editorial changes in JECFA specifications to enhance understanding by food control officials on the world-wide basis. In submitting these editorially revised specifications for endorsement by the Committee, the Working Group observes that the JECFA specifications have not been changed in their assurance of identity and purity of the substance.

3) In Category III the Working Group recommends revision of JECFA specifications only when the sponsor of the revision has assured the Working Group that data are available to justify the revision and that such data will be sent to JECFA

4) The Working Group recalled its discussion on the status of specifications for substances which have no JECFA ADI, Alinorm 85/12 Appendix IX para 3.

   For Categories I and II the Working Group designated those substances which do not have an JECFA ADI by some indication of acceptability or by the symbol +. By recommending Codex Advisory Specifications for these substances the Working Group makes no judgement on the safe use of these substances.

Specific technical comments and classification for monographs in Food and Nutrition Paper No. 28 (1983)

Category I (recommended for adoption by the Commission)

trans-Anethole
Benzyl acetate
Calcium benzoate
DL-Calcium malate
Castor Oil
+ Dioctyl sodium sulfosuccinate
Ammonium phosphate, monobasic
(+) Carvone
(-) Carvone
Magnesium di-L-glutamate
+ DL-(+)-Tartaric acid
Ethyl nonanoate
Lactitol
Magnesium chloride
Magnesium chloride
Magnesium gluconate
Sucroglycerides

Category II (recommended for adoption by the Commission after editorial changes)

	Changes
Magnesium hydroxide carbonate	- correct limit for arsenic to 3 mg/Kg max.
DL-Magnesium lactate	- clarify chemical and structural formulae
L-Magnesium lactate	- correct structural formula
Sorbitol syrup	- change "reducing sugars (as dextrose)" to "reducing substances (as glucose)"
Thaumatin	- assay: change "94% proteins" to "93% proteins" to bring it into conformity with the nitrogen factor used.

Category III (not recommended for adoption)

	Recommended change
Acesulfame potassium	- specification should be reviewed as and when information on the product in full scale commercial production becomes available
Butylated hydroxy'toluene (BHT)	- review the precision of the specific absorption test employed as the method of assay
Polyethylene glycols	- review the limits for ethylene oxide and ethylene glycol and diethylene glycol
Polyglycerol esters of fatty acids	- consider the inclusion of polyglycerols with a chain-length of up to ten - consider the inclusion of an assay or specifications to account for material balance
Potassium bromate	- review procedure for determining loss on drying
Potassium dihydrogen citrate	- review procedure for determining loss on drying - review the limit for oxalate

Potassium nitrate	- review the method for determining nitrite content - consider raising the limit for nitrite to 30 mg/kg max.
Propyl gallate	- review the procedure specified under identification test D
Sucrose esters of fatty acids	- consider including methyl ethyl ketone with a suitable limit in the list of residual solvents - revise the limit for heavy metals upwards or make a separate provision for up to 50 mg/kg of copper
Talc	- review the method for determining asbestos content
Triammonium citrate	- review the limit for oxalate
Xylitol	- clarify the conditions under which the sample is dried in the method of assay

Category IV (revised at the 29th Session of JECFA)

	Comments
Bacillus licheniformis, α-amylase	
Carbon dioxide	
[thyl hydroxyethyl cellulose	
Hydrogenated glucose syrup	- a separate specification for puremaltitol might be appropriate
Insoluble polyvinylpyrrolidone	
Isomalt	- the Working Group noted that the information requested at JECFA 27 had been provided
Karaya gum	
Modified starches	- the Working Group noted the existence of ISO methods of analysis for sulphur dioxide and phosphorus content, and draft ISO methods for acetyl and carboxyl group contents. These documents were transmitted in November 1984 by ISO/TC93 Secretariat to the JECFA Secretary and the Chairman of the Working Group on Specifications
Tragacanth gum	

Category V (tentative specifications)

	Comments
Carob bean gum	- the Working Group noted that the information requested at JECFA 27 on the conditions for determining total ash had been provided and that the trade association concerned had questioned the need for the inclusion of microbiological criteria. The Group also agreed to ask JECFA to consider including an assay or some means of specifying material balance
Dichloromethane (methylene chloride)	
Diethyl ether	
Disodiurn pyrophosphate	- review the limit for fluoride content - P205 content = 63.0 to 64.0%
Sodium dihydrogen citrate	- review the limit for oxalate content
Sodium fumarate	
Tetrasodium pyrophosphate	- the Working Group noted that information is available on P205 content
Trichloroethylene	

Specific technical comments and classification for monographs in Food and Nutrition Paper No. 31/1 (1984)

After discussing the general format of the specifications for food colours in FNP 31/1, the Working Group agreed to several editorial amendments common to a number of the monographs:

- Colour Index names and EEC numbers to be taken as Synonyms and deleted from the Code Numbers;
- for Sodium salts of synthetic colours, include water as one of the principle uncoloured components in Definition;
- where available, CAS chemical names should be included.

In addition, the Working Group recommends that the Codex Secretariat request the services of an expert in IUPAC chemical nomenclature to review the chemical names and formulae of the food colours.

These apply in addition to the detailed corrections identified in the summary table below and as a result nere of the specifications were classified in Category I.

Category II (recommended for adoption bv the Commission after editorial changes)

	Changes
Allura Red AC Amaranth ß-Apo-8'-Carotenal	- rationalise the entries for "Definition" and "Assay" - indicate the substance as being "predominantly the all trans-isomer" - remove reference to commercial preparations from the Description and put as

	a footnote with an indication that appropriate methods of assay should be available from the manufacturer
	- Method of Assay: refer to spectrophotometric procedure II
ß-Apo-8'-Carotenoic Acid Ethyl Ester	- same comments as for ß-Apo-8'-carotenal
Azorubine	- include in Corrigenda
Brilliant Blue FCF	
Brown HT	- correct EEC No. to 155
Canthaxanthin	- same comments as for ß-Apo-8'-carotenal
Erythrosine	- correct structural formula
+ fast Red E	
Ferrous gluconate	- delete entry for Code Numbers
+ Green S	
Indigotine	
Iron Oxides	- delete CAS entry for Fe(OH)3 under Code Numbers
+ Lithol Rubine BK	
Quinoline Yellow	
Sunset Yellow FCF	
Tartrazine	

<u>Category III</u> (not recommended for adoption)

Brilliant Black BN	- review assay and material balance
ß Carotene-synthetic	- clarify identification Test C
Curcumin	- review list of extraction solvents - clarify method for identification Test E - consider inclusion of alternative method of assay
Grape Skin Extract	- review need for assay limit
Paprika Oleoresin	- consider a limit for capsaicin in paprika extract used as colourant - consider a separate specification for paprika oleoresin used as flavour
Patent Blue V	- review limit for water-insoluble matter
Panceau 4R	- review assay and material balance
Riboflavin	- consider limits for primary aromatic amines and mercury
Riboflavin 5'-phosphate Sodium	- same comments as for Riboflavin

<u>Category IV</u> (revised at the 29th Session of JECFA)

Carthamus Yellow	- the Working Group was not aware of any current commercial production and use of this colour
Fast Green FCF	

Category V (tentative specifications)

Aluminium Powder	
Beet Red	- review chemical name - consider assay and limits for nitrate content
Carbon Blacks	
Caotenes - Natural	- review source materials, method of preparation and assay - reconsider the title of the monograph
Carthamus Red	- the Working Group was not aware of any current commercial production and use of this colour
Chlorophylls Chlorophyll-Copper Complex	- review commercially available products with a view to drawing up a more comprehensive series of monographs
Citrus Red No 2	- the Working Group asked whether this specification can be withdrawn because this colour is on Codex List C
Cochineal and Carminic Acid	
Titanium Dioxide	
Xanthophylla	

Food and Nutrition Paper 31/1 (1984) - list of colours for which specifications have been withdrawn

The Working Group noted the information submitted by Finland and ILSI relating to anthocyanlns.

Annex to Food and Nutrition Paper 31/1 (1984) - Methods of Analysis

The Working Group endorsed the acceptability of the Methods of Analysis with the following comments and exceptions:

- when the methods are next reprinted, consideration should be given to making them easier to read and use
- Method for Determination of Total Colouring Matters Content: In addition to editorial changes to improve the ease of use, a clear definition is required of the solutions which are used for measuring the optical absorbance in the case of ß-carotene.
- Method for Determination of Subsidiary Colouring Matter: The Working Group recommends that JECFA develop a TLC method as on alternative procedure.
- Method for Determination of Residual Solvents: The Working Group noted this method is outdated and requests JECFA to consider its revision or replacement by a more modern procedure.

Specific technical comments and classification for monographs in Food and Nutrition Paper No. 31/2

Category I (recommended for adoption by the. Commission)

Actinoplanes missouriensis - Glucose Isomerase
Bacillus cereus - Acid Protease
Bacillus coagulans - Glucose Isomerase (non immobilized form only)
Chlorine

+ Ferric Ammonium Citrate
α-Ionone
ß-Ionone
Methanol
Methyl Cellulose
Nitrous Oxide
Potassium Saccharin
Sodium Sesquicarbonate
Streptomyces olivaceus - Glucose Isomerase
Streptomyces olivochromogenes - Glucose Isomerase
Streptomyces violaceoniger - Glucose Isomerase
Tara gum
Calcium Aluminium Silicate
Cinnamaldehyde
Octanal
Triethyl Citrate

Category II (recommended for adoption by the Commission after editorial changes)

+ Butan-1-ol	- add cautionary note to distillation range concerning presence of peroxides. The Working Group recommended that JECFA develop a peroxide test for inclusion in the general method for distillation range.
Ethyl Methylphenylglycidate	- correct symbol for refractive index - indicate that A and B are alternative methods of assay - add footnote to page 32 refering to General Methods
+ Ethyl Methyl Ketone	- correct reference to General Methods for determination of colour
+ Isobutanol-	- correct second specific gravity range
+ Methyl ß-Naphthyl Ketone	- correct spelling of title
Pectin	- change name to Pectins
+ Propan-2-ol	- add cautionary note to distillation range concerning presence of peroxides. The Working Group recommends that JECFA develop a peroxide test for inclusion in the general method for distillation range
Sodium Carboxymethyl Cellulose	- change "lg" to "0.5"g in Identification Test D

Category III (not recommended for adoption)

	Comments
Propan-l-ol-	- review distillation range and assay for conformity - add cautionary note to distillation range concerning presence of peroxides and consider developing peroxide test for inclusion in the General Methods

Category IV (revised at 29th Session of JECFA)

	Comments
Hydroxypropyl Cellulose	
Hydroxypropylmethyl Cellulose	
Salts of fatty acids (together with Annex)	
Sodium thiocyanate	- the Working Group noted the absence of an entry for "functional use"

Category V (tentative specifications)

	Comments
Calcium stearoyl lactate	- review structural formula - the Working Group noted that the comments received raised questions about the composition of the materials used in toxicological studies
Carrageenan	- the title of the monograph in the french text requires correction
Dammar gum Sodium stearoyl lactate	- the Working Group noted that the comments received raised questions about the composition of the materials used in toxicological studies.

ALINORM 87/12
APPENDIX XII

REPORT OF THE WORKING GROUP ON CONTAMINANTS

The following participated in the meeting (See Appendix I for addresses):

S.A. Slorach	- Sweden (Chairman
A.H. Olsen	- Denmark
G. De Cean	- Australia
J. Fraser	- New Zealand
J. Hammond	- U.K.
S. Langguth	- Fed. Rep. of Germany
H. Hilpert	- " " "
P.J. Sträter	- " " "
J.A. Drum	- Canada
R.V. Venetië	- Netherlands
O. Denise	- OCDE
R.K. Reinton	- Norway
A. Haliikainen	- Finland
A. Janelm	- Sweden
R. Kumton	- Thailand
P. Pothisiri	- Thailand
T. Kappeler	- Switzerland
A. Castro	- Cuba
S. Gardner	- IFGMA
G. Luft	- Italy
E. Quattrucci	- Italy
L. J. Schuddeboom	- Netherlands
H. Galad-Gorchev	- WHO
A. Eisenberg	- Israel
A.G. Ladomery	- FAO

AGENDA

1. The Working Group (WG), chaired by Or. Slorach (Sweden), agreed to discuss the Following subjects

a) Current national legislation to limit contaminant levels in foods;
b) Report on the Joint FAO/WHO Food Contamination Monitoring Programme;
c) Problems arising from extremely low legal limits for contaminants in foods;
d) Different types of limits for contaminants in foods and their enforcement, in particular the question of limits for mercury in fish and shellfish;
e) Future work of the Working Group.

CURRENT NATIONAL LEGISLATION

2. The WG examined document CX/FA 85/18 and Annex 1 to that document ("Present status on the legislation by governments to limit contaminant levels in foods"

and "Information on legal and other administrative limits for contaminants in food", which had been prepared by Mr. M.H.Mollenhauer, FAO Consultant).

3. National limits for mercury and methylmercury were listed in a separate document prepared by the Swedish delegation from the information in Annex 1 to CX/FA 85/18. In some countries legal limits (maximum permitted levels) have been established, whereas in others guidelines (advisory limits) had been introduced. The limits varied from 0.1 - 1 mg/kg total mercury. The chairman (Dr. Slorach, Sweden) requested that he be notified of any errors or omissions in the list of national limits for mercury in fish so that the list could be revised prior to the next meeting.

JOINT FAQ/WHO FOOD CONTAMINATION MONITORING PROGRAMME

4. Dr. Galal Gorchev (WHO) presented document CX/FA 85/18 - Add. 1 - the 1984-1985 report of the Food Contamination Monitoring Programme. It was noted that one of the objectives of the programme was to provide Codex with information on the levels of contaminants in food to support and accelerate its work on introducing standards for contaminants in foods.

5. At the request of the 17th Session of CCFA data had been collected from Codex Contact Points on mercury in fish. The information submitted was summarized in document CX/F 85/18 - Add. 4 and presented in detail in two computer printouts, one presenting the data by country, the other by fish species. (The data are discussed below under point 8).

EXTREMELY LOU LEGAL LIMITS FOR CONTAMINANTS IN FOODS

6. The WG reviewed a paper (CX/FA 85/18-Add.2) prepared by the USA delegation on extremely low limits for contaminants. No difficulties in international trade due to analytical methodology for mercury, lead, cadmium and aflatoxins were located.

The WG agreed with the recommendation in the paper that CCFA, which is responsible for endorsement of limits for contaminants in foods, should consider practical limitations on enforcement of limits with respect to reliability and sensitivity of analytical methods.

DIFFERENT TYPES OF LIMIT FOR CONTAMINANTS IN FOODS

7. The WG discussed the use of two types of limit for contaminants in food (maximum permitted levels and guideline levels) and their enforcement on the basis of a document prepared by the Swedish delegation, e.g.:

Maximum permitted level is the level that is laid down in legal instruments, such as laws and regulations. Any food containing a higher level of a contaminant than the stipulated level is regarded as unfit for human consumption and must be removed from the market. An advantage of having this type of limit for contaminants in Codex standards is that the consequences of exceeding the limit are clear. The main disadvantage of this type of limit is that it is rigid and if it is not set on a sound basis it may lead to trade barriers and the unwarranted rejection of food-stuffs.

When establishing a maximum permitted level (MPL) for a contaminant in a food commodity the criteria for judging whether a lot (batch) of a commodity should be accepted or rejected should be specified. For example, it should be clear whether a lot (batch) of food will be rejected if the specified contaminant level in a single unit exceeds the MPL or only if the mean level in the units analysed exceeds the MPL. If the latter is the case, it may be necessary, for some contaminants producing acute untoward effects on health, to also establish a level that no unit may exceed if the lot is to be accepted.

Ideally, for each MPL established for a food commodity a sampling plan should be laid down, together with criteria for acceptance/ rejection of a lot (see also CX/FA 85/14).

Guideline level means a level above which the food control authorities should take action to prevent any hazard to the consumer, to identify the source of contamination and, if possible, to reduce contamination. However, the fact that the contaminant level exceeds the guideline level does not automatically imply that the food is unfit for human consumption or that it cannot be offered for sale. In other words, the guideline level is a kind of warning signal, indicating that there may be problems if an unsatisfactory situation gets worse, but that there is no immediate health hazard. An advantage of setting guideline levels instead of MPLs is that the former are more flexible and, since they carry no legal weight, exceeding such a level will not automatically result in the rejection of foodstuffs or any trade barriers. A disadvantage of using guideline levels instead of MPLs is that it is not clear what the consequences of exceeding the level will be.
There are sometimes large differences between countries as regards the quantitative importance of certain foods in the diet (eg. large differences in fish consumption). This may lead to national limits that differ somewhat from a guideline level.

For each guideline level established for a contaminant in a food commodity a sampling plan, instructions for evaluating the results of the analysis of the samples and the action to be taken if the guideline level is exceeded should be laid down.

8. After considerable discussion, the WG decided that it would be advisable, at least initially, to work towards the establishment of Codex Guideline Levels for environmental contaminants in foods, rather than maximum permitted levels.

LIMITS FOR MERCURY IN FISH

9. The WG discussed the possibility of recommending a guideline level(s) for mercury in fish and shellfish and concluded as follows:

a) limits should be recommended for total mercury rather than methylmercury,
b) against the background of the data collected in the Joint FAO/WHO Food Contamination Monitoring Programme (see point 5) it seemed that a general guideline level of 0.5 mg/kg could be recommended for most fresh, frozen and canned fish and shellfish products.

For certain predatory fish (eg. shark, swordfish, tuna and pike), which often contain relatively high levels of mercury, a higher guideline level (e.g. 1 mg/kg) may be more appropriate. In order to reduce the risk of untoward health effects, certain national authorities recommend that pregnant women and persons consuming large amounts of fish restrict their intake of such species.
The WG thought it descirable to have more data on mercury levels in different fish species before recommending a guideline level(s). To this end the WG recommended that data on mercury levels in fish and shellfish analysed during the period 1980-1985 be collected in the FAO/WHO Food Contamination Monitoring Programme via the Codex Contact Points, as well as via the participating institutions in the Monitoring Programme.

10. When recommending Codex guideline levels for mercury in fish and shellfish it must be made clear how this level(s) is to be interpreted. It was the general opinion that the guideline level referred to the mean level of mercury in the samples analysed, rather than to the level in a single sample.

11. Before recommending Codex guideline levels for mercury in fish the question of methods of sampling and analysis, and recommendations for evaluating the results should be clarified. Alternative sampling plans are illustrated in Appendix II to document CX/FA 85/14. Contact will be made with the Codex Committee on Methods of Analysis and Sampling on this matter.

FUTURE TASKS FOR THE WORKING GROUP

12. The WG discussed which contaminants should be given priority in its future work. It was agreed that at the next meeting of the WG, in addition to the subject of mercury in fish and shellfish, the following would be discussed:

a) Aflatoxins
b) Lead

Cadium wasassigned a lower priority.

13. Large amounts of data on lead and aflatoxins in foods have already been collected in the FAO/WHO Food Contamination Monitoring Programme. these data will be made available to the WG for its deliberations at the next meeting .

ALINORM 87/12
APPENDIX XIII

REPORT OF THE WORKING GROUP ON PRIORITIES AND FUTURE WORK

1. The following participated in the meeting (See Appendix I for addresses):

L.J. Erwin (chairman)	- Australia
N. Rao Maturu (rapporteur)	- FAO
A.W. Randell	- FAO
G. Vettorazzi	- WHO
I.R. Moraes	- Brazil
Diane C. Kirkpatrick	- Canada
W. Kronert	Fed. Rep. of Germany
P. Kuhnert	- " " "
C.G. von Bruck	- " " "
W.J. de Koe	- the Netherlands
Ruth Stabel	- Norway
S. Slorach	- Sweden
A. Janelm	- Sweden
P. Rossier	- Switzerland
E. Matthey	- "
Udom Dechmani	- Thailand
J. Horton	- United Kingdom
R. Ronk	- USA
E. Bouchard	- "
O.D. Easterday	- "
Julia Howell	- "
Rhonda Nally	- "
G. Dunaif	- "
R. Haigh	- EEC
Yoshi-Hisa Sugita	- IGTC
R. Cristol	- IFAC
W.J. Sander	- Marinalg International
A. Contijoch	- Spain

Codex Priority List of Food Additives and Contaminants for consideration by JECFA

1 The Working Group reviewed the priority list prepared by the previous session (April 1984) of CCFA (Alinorm 85/12, App. XI, Annex 1). The JECFA secretariat advised that with the exception of clarifying enzymes all additives had now been considered by JECFA. An expression of appreciation was extended to the secretariat for this achievement.

2. The JECFA secretariat advised that the list of substances scheduled for evaluation by JECFA at its 30th Meeting, to be held in Rome in June 1986, was given in an Annex to CL 1985/50-FA which had also been distributed as an information paper for this meeting of CCFA. Governments, interested organizations and individuals were urged to make available to JECFA relevant data on toxicological evaluation and

information on specifications for identity and purity. Although the paper indicated a cut-off date of 15 October 1985, late data would be acceptable.

3. The JECFA secretariat also noted that the list of substances already scheduled for evaluation or re-evaluation at the 31st Meeting of JECFA had not yet been finalized. However, these would be given in a circular letter to be distributed early next year along with a request for data and information.

4. The following additives were included in the priority list:

(i) 4-Hydroxymethyl-2,6-di-tert-butyl phenol (Antioxidant): proposed by USA
(ii) Tin intake: proposed by USA
(iii) Smoke flavour (a specified product): proposed by Denmark
(iv) Clarifying enzymes: from previous priority list
(v) Canthaxanthin: proposed by Australia and Sweden
(vi) Beets Red
(vii) Alpha-amylase from Aspergillus oryzae
(viii) Protease from Aspergillus oryzae

5. In regard to tin (ii above), the Working Group agreed that there was a need for JECFA to give further consideration to both chronic and acute toxicity. It was pointed out that the acute toxicity aspect was of particular concern because of the difficulty in interpreting the recommendation of the 26th meeting of JECFA which proposed a level of 200 mg/kg in a food without any reference being made to the food intake.

6. Consideration was given to including the natural wood smoke extract (iii above) as part of a group evaluation of smoke extract products. It was decided that the specific product only should be evaluated because of its particular nature.

7. Concerning clarifying enzymes (iv), the Working Group was advised that AMFEP had now provided further information including a list of specific enzymes. This would enable JECFA to proceed with the evaluation.

8. In placing canthaxanthin (y) on the priority list, the Working Group requested JECFA to give particular attention to the present ADI.

9. The Working Group noted that Beet Red (vi) was being used in food and that its evaluation as a food additive should be given priority.

10. It was noted that alpha-amylase (vii) and protease (viii) from Aspergillus oryzae had been proposed by the Codex Committee on Cereals, Pulses and Legumes for use in wheat flour. Without an evaluation by JECFA, the endorsement could not proceed.

11. The Working Group considered an IOCU proposal that monosodium glutamate be re-evaluated because additional data had become available since the initial evaluation in 1973. A number of delegates questioned the need for such a re-evaluation since, in their view, the additional data did not justify a full re-evaluation.

12. A number of delegates from developed countries explained that surveys in their countries indicated that the ADI was not being exceeded. It was acknowledged that similar data may not be available in developing countries including those in the Asian region where the intake levels may be higher.

13. It was noted that the co-ordinating Committee for Asia would meet early next year. It was agreed that the matter should be referred to that meeting with a request that the member countries endeavour to obtain intake data. The delegation of the USA advised that it would assist the region to collect information.

14. The JECFA secretariat advised that it would review the new information that had become available since 1973 at the 31st meeting in 1987 under the provisions for cyclic review of compounds. This review would extend to glutamic acid and its salts. It was noted that the data to be generated in the Asian region would probably not be available for this meeting. However, when it becomes available this data will enable the Working Group to decide on the need for a full re-evaluation.

15. The Working Group considered a proposal of Switzerland to include sorbates on the priority list because of reports of possible mutagenicity from reaction products with nitrites. Since there did not appear to be sufficient data available to warrant this, the Working Group suggested that Switzerland provide data to the JECFA secretariat and liaise directly on this matter.

16. A proposal of the delegation of Sweden to include quinine hydrochloride and quinine sulphate was not agreed. It was suggested that Sweden also liaise directly with the JECFA secretariat.

17. The Working Group discussed in detail future procedures to streamline the work of both JECFA and CCFA. The JECFA secretariat explained that the collection of data by government, industry and experts takes considerable time and that the present one year cycle was not enough. It was proposed that a two year cycle would be far more satisfactory. This had proven to be very satisfactory for JMPR.

18. The Chairman indicated that a two year cycle appeared feasible since he understood that the Netherlands government wished to hold annual meetings of CCFA as from March 1987. On this basis, substances placed on the priority list at that meeting would be considered at a JECFA meeting in early 1988. This would, of course, be possible only if JECFA continues to hold annual meetings. The Secretariat indicated that every effort would be made to achieve this.

19. Some concern was expressed that a two year cycle would delay consideration of matters of urgency. The JECFA secretariat assured the Group that wherever new data suggested a possible health hazard JECFA would review its recommendations without delay.

20. The Working Group recommends that CCFA request the Commission to bring to the attention of the parent bodies, namely FAO and WHO, the need for continuing annual meetings of JECFA to ensure that the new procedures are effective.

21. The JECFA secretariat indicated that in future greater emphasis would be given to the consideration of related groups of food additives such as the antioxidants listed for the 30th meeting.

22. The procedure used to establish the priority list was again considered. It was noted that the previous meeting of the Working Group had agreed that substances would be included on the list only on the assurance that adequate information would be made available to JECFA (Alinorm 85/12, Appendix XI, para 10). The Working Group reiterated this approach.

23. In order for the Working Group to consider requests for additions to the priority list, member countries and international organizations should provide a brief explanation in support of their request. While this would be accepted at the meeting it would be preferable earlier so that it could be distributed to members of the Working Group to study before the meeting. This would enable members to make more considered judgements on priorities at the meeting.

Proposals for Future Work on Packaging Materials for roods

24. The Working Group had the following documentation for consideration:

(i) CX/FA 85/11 - Estimates of/intakes of Certain Migrants from Packaging Materials (Prepared by Canada) and based on responses to CL 1984/51-FA
(ii) Alinorm 85/35 - Review paper prepared by Prof. Dr. P. S. Elias

25. The Working Group discussed the need for establishing a separate group to deal specifically with packaging materials. It was the general consensus that this was not necessary at this time.

26. The delegation of Canada summarized the document on intakes of vinyl cnloride, acrylonitrile, DEHP and styrene which was based on responses to CL 1984/51-FA. The recommendations pertaining to these substances as contained in the 28th Report of JECFA were also brought to the attention of the meeting. In summary, JECFA recommended that human exposure to these migrants from food-contact materials should be restricted to the lowest levels technologically attainable.

27. The Working Group agreed with the recommendation put forth by Canada that since humandietary exposure to these migrants had been demonstrated, then on the basis of JECFA's conclusions it was time to consider limiting the occurrence of these migrants in food as a result of food packaging applications.

28. It was further agreed that Canada would prepare a position paper on mechanisms to accomplish this task. This paper would be circulated to governments for comment prior to the next CCFA Session.

29. The Working Group briefly discussed the review paper prepared by Prof. Elias. While there was no objection in principle to the proposed use of "permitted lists of ingredients", it was considered that this approach is fraught with many difficulties (with particular reference to the intensive resource requirements). Therefore, in the final analysis it may not afford better protection for consumers than negative or non-permitted lists.

30. The Working Group agreed with Canada's recommendation that food packaging materials and components thereof be dealt with on a case by case priority basis as is currently the approach adopted by the CCFA rather than developing a permitted list of these substances.

Consideration of Vitamins and Minerals

31. The delegate of the Fed. Rep. of Germany referred to the "General Principles for the Use of Food Additives" (Codex Alimentarius Volume XIV pages 15-16) which require that all food additives should be'

- subjected to appropriate toxicological testing and evaluation,
- defined by appropriate specifications,
- and used only when there is full technological justification.

Further, para 5(b) of these General Principles include "ingredients or constituents for foods manufactured for groups of consumers having special dietary needs".

32. Although this indicates that special nutritive additives are already covered by these General Principles, this is not always understood. To make this clear the Fed. Rep. of Germany proposed the inclusion of the following additional paragraph in these General Pinciples:

" The above principles also apply to vitamins, mineral salts and amino acids added to foods in order to fortify or to improve the nutritive qualities of the food".

33. The Working Group considered that the above approach appeared to be a very acceptable method of handling such substances. It recommends that CCFA forward the proposal to governments for comment with a view to initiating an amendment to the General Principles.

Request from OECD for the Establishment of Codex Maximum Limits for Certain Chemical Substances on Various Fruits and Vegetables

34. The Working Group noted that the recent session (July 1985) of the Commission had considered the above request, as documented in Alinorm 85/11, and had referred it the Codex Committees on Food Additives and Pesticide Residues for further consideration.

35. It was noted that only some of the substances listed could be considered to be food additives.
Further, the post-harvest use of such chemical preservatives and other substances for maintaining the quality of fruits and vegetables called into question a range of issues not associated with the usual use of food additives in food manufacture. It could be that such use of food additives would require principles more akin to those for pesticide residues rather than food additives.

36. It was agreed that this opened up a whole new area of work which needed careful consideration.

37. At the same time the information provided by the OECD would need to be supplemented with data on a range of matters including function of the chemical concerned, method of use, levels of use, residual levels, extent of use, etc.

38. The Working Group recommends that the CCFA request the Codex Secretariat to liaise with the OECD and prepare a detailed discussion paper suitable for presentation to the next meetings of both CCFA and the Codex Committee on Pesticide Residues.

Analyses of Food Additives in Food

39. The Working Group had the following documentation:

(i) CX/FA 85/11-Add.1 - Methods of Analysis of Food Additives in Food (prepared by Canada)
(ii) CX/FA 85/11- Add. 1A (Additional Methods provided by Fed. Rep. of Germany).

40. In introducing the discussion paper the delegation of Canada stressed that this was a first step towards developing priorities for future work in this area.

41. The Working Group discussed several issues relating to this task, including procedural aspects, and the following was concluded:

1. At the present time the establishment of a separate Working Group to deal specifically with methods of analysis for food additives in foods was not considered necessary.

2. The recommendation of Canada to ask member governments to submit any information they may have available on validated methods of analysis for food additives in foods was unanimously accepted.

3. The concept of validation should be explained further as part of the CL to request input to this paper to be prepared by Canada. In addition, the Working Group decided that the CL should also request information on any work planned or underway in this area.

42. The Chairman, on behalf of the Working Group, extended his thanks to Mrs. Kirkpatrick and the Canadian delegation not only for the extensive input into this work on analysis but also for that on packaging materials.

Procedures that member governments should follow for submission of data to JECFA

43. The Working Group had before it CX/FA 85/11-Add. A prepared by the Codex Secretariat.
It was noted that there are two procedures which governments and international organizations could follow in regard to requests to JECFA to undertake new work. A direct approach could be made to either the FAO or the WHO member of the joint secretariat, or to one of the parent bodies (FAO and WHO). Alternatively, the approach can be through this Working Group of the CCFA. The paper under consideration discussed only the latter.

44. The Working Group agreed that the discussions at this meeting, taken in conjunction with those at the last, had already clarified the situation to a large extent.

45. It was agreed that while the paper under consideration provided a basis for requests, there were some aspects which required clarification in the light of the latest discussions. The Working Group therefore requested the Codex and JECFA Secretariats to liaise with a view to revising the paper for consideration at the next meeting of the Working Group.

Future work

46. Because of insufficient time, the Working Group was unable to discuss other possible future work.

ALINORM 87/12
APPENDIX XIII

ANNEX I

CODEX PRIORITY LIST ESTABLISHED BY THE 18th SESSION OF CCFA

4-Hydrosymethyl-2,6-di-tert-butyl phenol (Antioxidant) - proposed by USA.

Tin intake - proposed by USA

Clarifying enzymes - proposed by CCFA

Pectinases from Aspergillus niger and its group or Aspergillus alliaceus

Pectinylase	I.U.B.	4.2	2.10
Polygalacturanase	I.U.B.	3.2	1.15
Pectinestirase	I.U.B.	3.1	1.11

Alpha amylase from Aspergillus oryzaeI.U.B. included in 3.2.1 group

Alphamylase	I.U.B.	included in	3.2.1 group
Glucamylase	I.U.B.	included in	3.2.1 group

Amyloglucosidases from Aspergillus niger

Proteases from Aspergillus oryzae or Aspergillus niger I.U.B. 3.4 23.6

Cellulases from Irichoderma reesei or Penicillium funiculosum I.U.B. included in 3.2.1 Group

Hemi Cellulase from Aspergillus niger I.U.B. included in 3.2.1 group

Beta-glucanase from Trichoderma harzianum or Aspergillus niger I.U.B. included in 3.2.1 group

Smoke flavour (a specified product) - proposed by Denmark

Conthaxanthin - proposed by Australia and Sweden

Beet Red