codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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ALINORM 79/12-A

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Thirteenth Session. December 1979

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

The Hague 11-17

11-17 September 1979

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CODEX ALIMENTARIUS COMMISSION

Thirteenth Session
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REPORT OF THE THIRTEENTH SESSION OF THE CODEX COMMITTEE OF FOOD ADDITIVES

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INTRODUCTION

1. The Codex Committee on Food Additives held its 13th Session in The Hague, The Netherlands, from 11 to 17 September 1979, by courtesy of the government of The Netherlands. Dr. G.F. Wilmink (Netherlands) acted as Chairman. The session was attended by participants, including government delegations from 29 countries, observers from 23 international organizations and the secretariat (see Appendix I, for the List of Participants).

2. The session was opened by the Chairman of the Committee, who welcomed the participants on behalf of the government of The Netherlands. By pointing out the responsibilities of the Committee he stressed the importance of providing proper guidance to all interested parties to ensure the safe use of food additives. There should be, as agreed by the Commission, no change in the work programme of the Committee and therefore he underlined the necessity of holding yearly sessions. The Chairman informed the Committee that Mr. A. Feberwee would act as Vice Chairman during this session.

APPOINTMENT OF RAPPORTEURS

3. Mr. M. Fondu (Belgium), Mr. T. Avigdor (Switzerland) and Mr. M.P. Jackson (Australia) were appointed as rapporteurs.

ADOPTION OF THE AGENDA

4. The Committee adopted the provisional agenda (CX/FA 79/1) without modification.

MATTERS OF INTEREST FOR THE COMMITTEE

Report of the 22nd Session of the Joint FAO/WHO Expert Committee on Food Additives

5. The Committee had before it the report of the above mentioned session of JECFA (WHO Technical Report Series No. 61) which was presented by the representative of WHO.

6. The Committee noted that, whereas recommendations 1 and 2 had general support from Delegations (ibid p. 29 6(1) + (2)) there was some concern regarding the intent of recommendation 3 in which JECFA had recommended that "FAO and WHO should convene an interdisciplinary group of experts to establish an inventory of compounds that had not yet been fully evaluated and to classify them in terms of their potential hazard to health on the basis of toxicological knowledge and extent of use". The priority list could thus be employed as a means of selecting the most relevant compounds for future evaluation.

7. The Committee noted advice from the WHO representative that this recommendation had been superseded to some extent because at the thirteenth Session of the Codex Committee on Food Additives a working group had been established specifically for the purpose of setting a priority list of food additives to be examined by JECFA. It was also noted that the examination of this priority list was only one aspect of the functions of JECFA, which had in addition to consider:
(1) The recommendations of previous JECFA sessions;
(2) Requests for advice from member states of FAO/WHO
(3) Matters of urgent concern brought to its attention by the Secretariat.

8. It was pointed out that the food additives mentioned in the working group's priority list were not all considered at the following meeting of JECFA since the timing of successive meetings of JECFA and the Committee did not always allow for all items of the priority list to appear on the JECFA agenda. This meant that in some oases industry prepared information on toxicology and specifications of identity and purity of priority list food additives which did not appear on the next agenda of JECFA.

9. The Committee agreed that, although the priority list was only one aspect of the work of JECFA, whenever possible data on priority food additives should only be requested when the agenda of JECFA had already been finalized.

10. The Committee further noted that recent developments in WHO with regard to the establishment of the chemical safety programme was of concern to the delegates. Opinions were expressed that the broader scope of the programme as already outlined and the organisational changes involved could severely impede continuation of the work of the Codex Committee on Food Additives under its present terms of reference.

11. The Committee noted that at its recent meeting the Executive Committee of the Commission had discussed this question and at that time the manager of the chemical safety programme had stated that it was the intention that the support given to the JECFA and JMPR would be reinforced. It was further stated that future activities within the framework of the chemical safety programme would be carried out, as in the past, in close collaboration with FAO.

12. The Committee noted that several delegations opposed any changes that would impair the particular expertise and the present work programme of JECFA and the Codex Committee on Food Additives. The representative of WHO assured the Committee that, as requested at the 23rd Session of the Executive Committee, such was not the intention of the chemical safety programme and that the Directors General of FAO and WHO had agreed to cooperate in the implementation of the programme through continued collaboration with the Codex Alimentarius Commission,(see also paragraphs 60-68).

Report of the 23rd Session of the Joint FAO/WHO Expert Committee on Food Additives

13. The Committee noted that the report of the above Session had not yet been published but that a summary had been prepared by the WHO Secretariat for consideration by the Committee.

14. The Committee expressed its appreciation to the Secretariat and hoped that the practice of issuing summary reports of JECFA meetings in advance of official publication could continue since this would be of great service both to the Committee and to member governments.

15. The WHO and FAO Secretariats assured the Committee that a summary report would be made available for consideration by the Committee and member governments as soon as possible after the JECFA meetings.

Matters arising from Codex Sessions

16. The Committee had before it document CX/PA 79/4 on the above subject which was presented by the Secretariat.

13th Session of the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices

17. The Committee noted that the maximum level for tin in fruit juices had again been discussed by the Joint ECE/CODEX Group of Experts in the light of the evaluation of JECFA that limits established in accordance with good manufacturing practice would not represent a hazard to health.

It had been decided to leave the limit of 250 mg/kg unchanged with the understanding that the figure remained under review.

18. The Committee was informed that high levels of tin affected the quality of certain products. For instance those containing anthocyanins could be decolourised and the cans corroded when the tin content was too high. For such products the use of lacquered cans was advantageous.
For citrus fruit juices, on the other hand, the presence of tin in solution contributed to the preservation of the Vitamin C content and reduced the possibility, of clouding.

19. The Committee noted that the Group of Experts hoped for more participation from developing countries so that more information on tin levels in canned tropical products could be available.

20. It also noted that the use of lacquer in soldered cans reduced the level of tin but increased lead content of the product and special soldering techniques were necessary to avoid lead contamination.

21. The representative of SEFEL informed the Committee that a two-year testing programme on the levels of inorganic tin in simulated canned products was in progress.

22. The Committee noted that the Group of Experts on the Standardization of Fruit Juices had decided to elaborate on Standard for concentrated Pineapple Juice with preservatives and a General Standard for concentrated fruit juices and that this matter would be considered at a future session.

19th Session of the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products

25. The Committee noted that work on analytical methods to determine heavy metals in dairy products was in progress but that because of the necessity of further international collaborative testing internationally agreed methods would take some time, and the setting of maximum levels for heavy metals would consequently be delayed.

12th Session of the Joint ECE/Codex Alimentarius Group of Exports on Standardization of Quick Frozen Foods

24. The Group of Experts had noted that the Committee had at its 12th Session made recommendations to the Commission on the way the carry-over principle should be applied for Codex Commodity Standards and had decided to include wording concerning the applicability of the Carry-over Principle section 3 in all standards under

consideration at the Session and in. standards at Step 9 of the Procedure. It also agreed, to include appropriate wording under the section dealing with List of Ingredients indicating that additives carried over in conformity with the above section of the Carry-over Principle need not be declared on the label.

10th Session of the Codex Committee on Fats and Oils

25. It was noted that processing aids had been discussed at the above session and that a list of such food additives for use in fats and oils had been proposed. It had been agreed that the list (see ALINORM 79/17 Appendix IX) would be circulated for Government comments requesting suggested additions or information on residues typically found in fats and oils. The list would be further examined at the next session of the Codex Committee on Fate and Oils and forwarded to the Committee for consideration at a future date.

14th Session of the Codex Committee on Fruits and Vegetables

26. The Committee noted that in the Standard for Pickled Cucumbers it had been decided to include as thickening agents those modified starches which were on the Codex List.

27. Several delegates expressed concern that such a blanket Inclusion of established lists by Commodity Committees would result in automatic endorsement of any changes which might be made to the list as a result of new Information or the introduction of further thickening agents. It was pointed out that in the case of new thickening agents with the same ADI's as those already established there would be no problems, but that for those where a different ADI was proposed, examination and endorsement by the Committee would be required.

28. It was also recognized for such food additives as flavouring agents and for processing aids such as clarifying and filtering agents where no detailed list was given, the situation was very different from that In which specific substances were listed as for instance for preservatives or sweeteners where there were considerable variations in chemical and biological properties.

29. The Committee emphasized that the Commodity Committees should consider and report on technological justification when proposing lists of additives for endorsement. It recommended that the products should either be proposed individually for endorsement or if endorsement en bloc was proposed, a dated reference to the Codex List should be made.

2nd Session of the Codex Coordinating Committee for Asia

30. The Committee noted that at the above session the report of consultant which dealt, among other matters with the tin content in certain canned fruit juices and canned fruits and vegetables, had been considered and that the consultant's recommendation to maintain a maximum level of 250 mg/kg had been accepted.

31. It was further noted that the Coordinating Committee had discussed the question of tin plate quality and lacquers and had recommended that specifications for tin plate be established. The Committee was informed that both European and ISO standards for tin plate and lacquers existed. It also considered that, within the United Nations System, UNIDO was the appropriate body to deal with the question of ensuring that developing countries should develop a capability of producing tin plated cans of appropriate quality.

32. It was also noted that the recommendations of the consultant with regard to food additives, namely that "the uses of food additives especially coal tar colours and

synthetic flavours in Codex standards, wherever allowed, should be reviewed to restrict their usage unless absolutely necessary" had also been accepted by the Coordinating Committee. The Committee was of the opinion that high priority should be given to the recommendations arising from Coordinating Committees. However, it was pointed out in this respect that natural products were not necessarily safe per se nor were synthetic/artificial products inherently unsafe. In fact; ouch synthetic products as colours had been more extensively studied than natural colours.

33. It was recognized that in many developing countries the means to control additives or legislation limiting their use was often lacking. For this reason the need for the toxicological and technical evaluation of all food additives through the JECFA/Codex Committee on Food Additives should be emphasized and assistance should be provided to those countries in strengthening their food control capabilities.

Codex Coordinating Committee for. Europe

34. The Committee noted that the Coordinating Committee had considered that there were broad issues to which it could address itself . Among the subjects suggested wore the establishment of "general guidelines concerning undesirable substances in foods such an mycotoxins, nitrosamines, poly-nuclear aromatic hydrocarbons, PCB's and the migration of substances into food from packaging materials".

35. The Committee considered that mycotoxins and other such biological products were in a different category to the other contaminants in that they were more appropriately covered by suitable provisions in Codes of Hygienic Practice and not by the general guidelines proposed.

13th Session of the Codex Committee on Food Labelling

16th Session of the Codex Committee on Food Hygiene

Draft General Standard for Irradiated Foods

36. At its last Session the Committee had examined the Draft General Standard for Irradiated Foods and had decided to advance it to Step 8 and to send it for examination of the relevant sections to the Codex Committee on Food Labelling and the Codex Committee on Food Hygiene.

37. The Committee now had available the requested comments and decided to form an ad hoc Working Group under the chairmanship of Dr. Brynjolfsson (USA) to consider them and to report its conclusion to the plenary Session of the Committee.

38. The Committee had before it the report of the ad hoc Working Group which had met under the chairmanship of Dr. A. Brynjolfsson (USA), assisted by Mr. J. van Kooij (IAEA) as secretary. Canada and The Netherlands and EFLA had also participated in the work.

39. In introducing the report of the ad hoc Working Group, Dr. Brynjolfsson informed the Committee that the Group had considered the recommendations made by the Codex Committee on Food Labelling (as contained in ALINORM 79/22, paras 105 - 111 and Appendix VI to that Report) and by the Codex Committee on Food Hygiene (as contained in ALINORM 79/13A, paras 14 - 28 and the corresponding Appendix to that Report)

40. Furthermore the ad hoc Working Group had suggested that the scope of the Draft Standard should be amended with respect to the irradiation dose (as a result of instruments used in inspection) below which the standard was not applicable. It was

proposed by the Working Group that this dose should be raised from 50 rad to 1000 rad in order to take into account current practices. The Committee decided to clarify the scope of the standard without making reference to a specific dose of radiation below which the standard did not apply.
The delegation of Belgium, supported by the delegations of Austria, France and the United Kingdom reserved their positions concerning the recommendation to amend the scope of the standard. The delegation of Austria also called attention to the statements made by the Codex Committee on Food Hygiene (ALINORM 79/13-A paragraphs 18, 19) and to the Report of the Working Group on the Draft General Standard for Irradiated Foods (ALINORM 79/13-A, Appendix VI, paragraph 3).

41. Austria sought clarification concerning the labelling of products which contained irradiated ingredients. The Secretariat expressed the opinion that this matter was the responsibility of the Committee on Food Labelling as this was a general issue affecting non-irradiated foods and as the standard under consideration dealt with "first generation" products as far as irradiation wan concerned.

42. The delegations of Australia and the United Kingdom considered that since the temperature requirement for irradiated chicken had been deleted and in order to be consistent, the temperature requirement for cod and red fish should also be deleted. It was noted that temperature requirements for chicken , cod and red fish were specified in the corresponding Codes of Hygienic Practice for these commodities. The Committee agreed to adopt the recommendation of the ad hoc Working Group to specify temperature requirement for cod and red fish and also agreed that this be indicated as the "temperature of melting ice" as recommended by the Working Group of the Codex Committee on Food Hygiene.

43. The Committee did not agree with the recommendation of the Codex Committee on Food Hygiene with respect to Section 3 and preferred the original wording of this section included in the Draft Standard at . Step 8. The Committee, however, adopted the text proposed by the Codex Committee on Food Hygiene dealing with hygienic aspects.

44. The Committee accepted the other recommendations of the ad hoc Working Group as presented in its report (see Appendix II) with respect to the adoption of the editorial amendments recommended by the Codex Committee on Food Labelling and Food Hygiene.

45. With respect to cod and red fish, the Committee agreed that this provision related to fish fillets.

46. The Committee decided to establish an ad hoc Working Group consisting of the same countries and International Organizations as were members of the previous Working Group in order to deal with any matters arising from the 13th Session of the Commission in relation to irradiated foods.

47. The amendments adopted by the Committee to the Draft General Standard for Irradiated Foods are contained in Appendix II to this Report. The Commission was requested to consider these changes.

13th Session Committee on Food Labelling

Class Names

48. The Committee noted that the Codex Committee on Food Labelling, at its meeting in July 1979, had expressed concern at the discrepancies which existed between the class names of food additives specified in the General Standard for the

Labelling of Prepackaged Foods and the class names recommended by the Codex Committee on Food Additives at its 10th Session in May 1975.

49. The Codex Committee on Food Labelling agreed that the discrepancies between the two lists should be resolved by the Codex Committee on Food Additives at its next Session with a view to harmonising these lists.

50. The Committee received a document prepared by the delegation of Australia which tabulated the group names specified in the General Standard for Food Labelling and those recommended by CXFA at its 10th Session. In addition this document also included reference to the Codex publication "Guide to the Safe Use of Food Additives" CAC/FAL 5-1979.
It was also noted that the class names used in that document were not consistent with those class names given in the documents referred to above.

51. In particular the Committee noted that there were several references to class names in the lists which were not functional ones, such as "vegetable gums", "modified starches" and "flour treatment agents".

52. The Committee agreed that the class names of food additives should be revised and requested that a. working group under the chairmanship of Australia be established during the Session to resolve discrepancies and to propose appropriate class names for insertion into the General Standard for the Labelling of Prepackaged Foods. It was also agreed that classification of and class names for processing aids would be discussed under item 8b of the agenda.

53. The Committee noted a report from Working Group 8 which comprised delegates from Australia (Chairman), UK, USA, EEC, Canada, Fed. Rep. of Germany and the FAO representative,

54. The Committee accepted the recommendation of the Working Group that the list of class names of Food Additives given in Appendix IX of this report should be circulated to Governments for comment with the aim of achieving uniformity of class names of food additives.

Labelling of Food Additives when Sold as Such

55. At its last meeting the Committee had submitted the above Draft General Standard for consideration by the Codex Committee on Food Labelling for endorsement (ALINORM 79/12 paras 154-167 and Appendix IX). The Committee convened an ad hoc. Working Group (WG 3) to consider the question of bulk containers. Members of WG 3 were UK (rapporteur), Australia, Canada and The Netherlands.

56. WG 3 recommended that the conclusions of the Committee on Food Labelling regarding the definition of "bulk containers", i.e. that the term be replaced by the term "non-retail containers", be adopted. The Committee agreed to the recommendation of WG 3.

57. WG 3 further proposed amending paragraph 5 of the Draft Standard so that such containers would be labelled with the name of the food additive, in order to ensure that food additives destined for use by catering establishments and small-scale food manufacturers would be designated with the name of the additive on the label. The Belgian delegation considered that the date of minimum durability should if necessary be indicated on the label and not on the documents accompanying the consignment. The recommendations of WG 3 and the suggestion of the Belgian delegation were adopted by the Committee.

58. The proposed amendment to para 5 of the Draft Standard as agreed by the Committee for consideration by the Commission and the Codex Committee on Food Labelling is, therefore, as follows: "The labels of all food additives sold other than by retail shall bear the information required by sub-sections 5.1 to 5.5 of this section, as applicable to the food additives being labelled, except that, where food additives in non-retail containers are destined solely for further industrial processing, the required information other than that described in 5.1(a) and 5.1(d) may be given on the documents relating to the sale". (underlining denotes the extent of proposed amendment).

59. The Committee decided to reestablish WG 3 with the same membership as previously in case, as a result of consideration by the Commission, the Draft Standard required examination by the Committee at its next meeting.

CHEMICAL SAFETY PROGRAMME

60. The Committee was informed that the concern expressed by some delegations concerning the need to strengthen the work of JECFA had been one of the reasons for the establishment of the chemical safety programme. Both FAO and WHO had noted that with the Codex Committee on Food Additives and the Codex Committee on Pesticide Residues had at various times made recommendations concerning the insufficient resources at the disposal of JECFA and JMPR to carry out an increasingly heavy work programme and had recognized that over a number of years the funds available in real terms had remained static.

For these reasons consultations had been undertaken by WHO with Governments and with relevant national organisations to ascertain if there were means of pooling technical resources to ensure more effective progress in the field of chemical safety as a whole, is particular in the strengthening of the evaluation work of food additives and pesticide residues through JECFA, JMPR and the corresponding codex.

62. It was envisaged that the chemical safety programme would also cover industrial contaminants, cosmetics, and household chemicals but that microbiological contaminants and drugs would not be within the scope of the Programme.

63. It was emphasized that priority would continue with regard to work on Food Additives and Pesticide Residues and that it was the intention and objective of the new programme to strengthen the present arrangements. These assurances had been given to the Executive Committee of the Codex Alimentarius Commission at its last Session.

64. A large number of countries had supported the objectives of the chemical safety programme during discussion at the WHO Executive Board and had indicated their readiness to organize the cooperation of research and testing to assist priorities of this Programme. It was underlined that the results of testing would still pass through the JECFA and JMPR for evaluation at the international level by independent scientific experts. No changes were envisaged in the procedural relations among JECFA and Codex Committee on Food Additives as well as JMPR and Codex Committee on Pesticide Residues. Developing and developed countries present had expressed their satisfaction with the present arrangements to have international evaluation of food additives.

65. In response to questions from the Committee Mr. Kermode (FAO/WHO) confirmed that experts in JECFA and JMPR would continue to work in their personal capacity and not as representatives of industry or Governments and that the continuation of the work of JECFA in their specific fields could be fully ensured.

66. An Advisory Committee would be established by the Director General of WHO regarding the new programme and it was envisaged that Chairmen of Codex Committees of Food Additives and Pesticide Residues would be fully involved to ensure that present needs, priorities and working procedures of the Committee could be fully taken into account.

67. The Committee was informed that at the 13th Session of the Codex Alimentarius Commission, Dr. V.B. Vouk, Manager, Environmental Health Criteria and Standard Unit, Environmental Health Division, WHO would present details of the new Programme for the information of Members of the Commission and to present a general exchange of views with regard to its implementation.

68. Concerning the new international programme on chemical safety a small working group comprising delegates from Canada, Fed. Rep. of Germany, New Zealand, united Kingdom, USA and Australia prepared a statement on behalf of the Committee on these developments. The Committee accepted the following statement and agreed that it be placed before the Commission:
"While the Codex Committee on Food Additives appreciates the motivation of efficiency and economy which has given rise to the proposed international programme on chemical safety, it emphasizes that in order to achieve its aim this programme should not weaken in any way the role of the Codex Committee on Food Additives or JECFA. It appreciates the statement that the proposed new initiatives are intended to strengthen and develop existing structural arrangements for the international evaluation of food additives and that priorities will be given to the investigation of food additives.

The Codex Committee on Food Additives understands that under the new programme there is no intention to depart from the review procedure of a forum of independent and impartial experts such as JECFA, that existing procedures within Codex Alimentarius Commission will remain and that the priorities laid down by Codex Committee on Food Additives will prevail".
The Committee agreed that this matter should be reviewed at the. next meeting of the Committee.

REPORT OF THE AD HOC WORKING GROUP ON FOOD ADDITIVE INTAKE

69. The Committee had before it the report of the ad hoc Working Group on Food Additive Intake (CX/FA 79/5) which was presented by its Chairman (Mr. M. Fondu, Belgium) in three parts: Part I "Intake of Additives from Soft Drinks", Part II "Evaluation Study of the Intake of Colours originating from Edible Ices" and Part III "Intake of Colouring Matters (First Approach)". The report was welcomed by the Committee after the clarification of some points by the Chairman of the ad hoc Working Group.

70. Concern was expressed by the representative of WHO) supported by the UK delegation, that the figures arrived at in the reports might be misinterpreted or misquoted in the press. The figures specified should be recognised as approximations and, although they were very useful indications, they were not definitive. Thus if they suggested that an ADI were exceeded this should be the trigger for further investigation but not a cause for alarm. The report of the ad hoc Working Group was seen as being a valuable contribution to understanding this subject and the Committee requested the Working Group to continue its work. It was noted that further data on food additive intake would shortly be available from the USA, Finland and Japan and also from the EEC by mid-1980. It was agreed that member governments of the Codex Alimentarius Commission should, therefore, be approached to inform the Chairman of the

ad hoc Working Group of any data they may have available in this field with particular emphasis on food additive intake from soft drinks and the intake of colours from edible ices. In addition details of the methods used in obtaining such data was requested.

71. The Committee requested the ad hoc Working Group to study in particular the intake of colours having a low ADI (less than 2 mg/kg) and to consider the possibility of proposing methodology based on the information they receive; The Working Group was also requested to examine the actual levels of additives used in soft drinks. In addition the ad hoc Working Group was requested to indicate those additives whose intake it considered would require investigation.

Appointment of an ad hoc Working Group on Food Additive Intake

72. The members of the previous ad hoc Working Group were re-appointed with the addition of Switzerland. The Working Group therefore comprises representatives of Belgium (Chairman and rapporteur), Brazil, Canada, Denmark, Finland, France, Fed. Rep. of Germany, Israel, Italy, Japan, The Netherlands, Spain, Switzerland, UK, USA, EEC and WHO.

ENDORSEMENT 0F FOOD ADDITIVE PROVISIONS IN CODEX STANDARDS

General

73. The delegation of Norway presented to the Committee a document setting out the principle arguments that should be the basis of the endorsement of food additive and contaminant provisions in Codex Commodity Standards (CX/PA 79/10 - Conference Room Document). In introducing this document the delegation of Norway maintained that the endorsement of food additive provisions should not only be based on the ADI and technological justifications, but also the question whether or not food additives are desirable from a consumer point of view.

74. The Fed. Rep. of Germany referred to its position stated in earlier sessions and again stressed the point raised by the Norwegian delegation that one of the major tasks of this Committee was to examine the technological need for the use of food additives. The delegations of Sweden, New Zealand and Belgium supported the views of Norway and the Fed. Rep. of Germany (see also paragraph 135).

75. The delegations of the UK and USA considered that this Committee should not duplicate the work of Commodity Committees just as it would not be expected to duplicate the work of the JECFA. Therefore, they were not in favour of the views presented above. The delegations of Switzerland and The Netherlands did agree to some extent with the views of Norway but expressed some reservations as to the implications for the work of this Committee.

76. The Chairman pointed out that in considering endorsements the Committee should work from two important parameters, the ADI (together with PDI if available) and the technological justification. He reminded the Committee that provisions had been referred back to Commodity Commit - tees with requests for technological justification. He concluded, however, that the Codex Committee on Food Additives could be more detailed in the consideration of provisions for endorsement, and that the Committee should consider the overall use of food additives. He pointed out that this WAS one of the functions of this Committee, and was in conformity with its terms of reference as laid down in the Procedural Manual of the Codex Alimentarius Commission.

77. The Committee agreed to act accordingly during the reviewing of the endorsement of food additive provisions.

78. In introducing document CX/FA 79/10-Part I the Secretariat pointed out that it had implemented the new arrangements for the endorsement of food additive provisions adopted at the 11th Session of the Committee. The working papers, therefore, contained only those food additive provisions in Commodity Standards at Step 5 or at Step 7 of the Codex Procedure or which for other reasons needed to be considered by the 13th Session of CX/FA.
The paper included information concerning the status of the toxicological. evaluation and on the status of endorsement. In addition, the working paper included a recommendation by the Secretariat on the endorsement of the provisions following the guidelines established by the Committee. This recommendation was based on the status of the toxicological evaluation and on. the technological justification.
The Secretariat pointed out that, although it was not always possible to provide all the relevant information on the adequacy of the technological evaluation, it had attempted to comply with the requirements of the new procedure for the presentation of working papers on endorsement.

79. A summary of the conclusions of the Committee and other observations made by delegations is given in the succeeding paragraphs. The decisions of the Committee concerning the endorsement, temporary endorsement or postponement of the endorsement of food additive provisions is indicated in Part I of Appendix II to this report.

I. MILK AND MILK PRODUCTS

A. General Standard for Named Variety Process(ed) Cheese and Spreadable Process (ed) Cheese (AppendixIII-A.CX5/70)

Emulsifiers

80. The Committee noted that the provision on the phosphates covered a whole group of substances. It was noted that sodium aluminium phosphates were included in the working list of JECFA (List B), and the Committee therefore decided not to endorse these particular phosphates pending their toxicological evaluation.

Colours

81. The delegation of Switzerland was of the opinion that the use of colours was acceptable only where the name of the variety of the cheese did not appear on the label. The Committee postponed the endorsement of the colours, requesting the Commodity Committee to specify what products covered under the Standard needed colouring. The Committee also requested the Commodity Committee to set a maximum level for those colours for which an ADI existed.

Preservatives

82. The delegations of Switzerland, The Federal Republic of Germany and New Zealand expressed doubts concerning the need for preservatives in cheeses. The UK, however, felt that some types of cheeses in fact did need preservatives.

83. The Committee decided to postpone the endorsement of this section and to request the Commodity Committee for more information on the technological justification for the use of preservatives and for the high levels proposed.

B. General Standard for Process (ed) Cheese and Spreadable Process (ed) Cheese (Appendix III B of CX 5/70) and

C. General Standard for Process(ed) Cheese Preparation and Process (ed) Cheese Food and Process (ed) Cheese Spread (Appendix III-C of CX 5/70)

Emulsifiers Acidifiers, pH controlling agents, colours and Preservatives

84. The Committee decided to take the same attitude towards these standards as for the standard mentioned under A.

Taste intensifiers

85. The delegation of Australia drew the attention of the Committee to the inconsistency in the use of class titles for additives used in the document and in the Guide for the Safe Use of Additives (CAC/FAL 5-1979). It was agreed that this Committee would look Into the standardization of class names at a future session. It was also noted that the term "taste intensifiers" was properly described under the title "flavour enhancers".

86. The Committee postponed the endorsement of this provision, requesting the setting of a maximum level in the final product.

Other Additives

87. The Committee followed the recommendations of the Secretariat; it pointed out that gelatine was not considered as a food additive but as an ingredient and conveyed this information to the Commodity Committee. The provision for gelatine should, therefore, be deleted from the additive listing.

D. International Standard for Extra Hard Grating Cheese (Appendix IV of CX 5/70)

Optional additions

88. The Committee agreed that the provision for "harmless flavour producing bacteria" did not require endorsement As for the provision for "harmless enzymes to assist in flavour development", the Committee requested the Commodity Committee to clarify the use of these additions and to indicate whether they should be regarded as processing aids.

89. The delegation of the Fed. Rep. of Germany opposed the use of food colours, including chlorophylls, in these foods.

90. The delegations of Swizerland, Fed. Rep. of Germany and India were opposed to the use of preservatives in this type of cheese, while the Fed. Rep. of Germany pointed out that, in its view, sorbic acid and its salts were only used for surface treatment of such cheeses.

91. The Committee decided to refer the matter back to the Commodity Committee requesting clarification of the technological need for the use of such preservatives and for advice on whether the preservatives were used only for surface treatment.

II. PROCESSED FRUITS AND VEGETABLES

A. Standard for Pickled Cucumber (Appendix III, ALINORM 79/20)

92. The Committee discussed the food additive provisions of this standard at length. It expressed Concern at a lack of information on the technological Justification of the provisions and several delegations doubted the need for certain additives. The delegation of Poland was against the use of additives In these products.

93. There was some discussion on the food additives used in different types of pickled cucumbers and the Committee thought that the Commodity Committee should either propose more specific provisions for the particular types of this product or should provide more detailed information con - earning technological use of additives. Since this

standard has already been reviewed by this Committee it was decided to endorse the provisions as recommended by the Secretariat paper, but to convey the difficulties encountered in considering the food additives section to the Commodity Committee and to express the need for more guidance in the future.

Firming, Agents

94. The Committee decided to postpone the endorsement of aluminium ammonium sulphate, aluminium potassium sulphate, aluminium sodium sulphate and aluminium sulphate since they are awaiting toxicological evaluation by JECFA

Colouring matters

95. The Committee endorsed the provision for "chlorophylls", limiting it, however, to the copper chlorophyll complex, since the specification for chlorophyll had been withdrawn by JECFA.

96. It postponed the endorsement of oleoresin of turmeric, since there is no toxicological evaluation of JECFA available.

97. The delegation of Canada drew the attention of the Committee to the provision for natural caramel and pointed out that the Guide for the Safe use of food Additives did not include reference to "natural caramel" but "caramel (plain)". It was agreed that it should be understood as a provision for caramel (plain) (i.e. caramel derived by caramelisation of sugar without the use of the ammonia process).

Thickening Agents

98. In accordance with the discussion under the Matters of Interest (see paras 26 to 29) the Committee decided to endorse the modified starches with specific reference to those listed in document CAC/FAL 5-1979.

99. The Committee postponed the endorsement of xanthan gum, carrageenan and furcellaran, the alginates, propylene glycol alginate, pectins and sodium carboxy methyl cellulose, requesting the setting of a maximum level for all these substances.

100. The endorsement of tragacanth gum was postponed pending toxicological evaluation by JECFA.

B. Standard for Canned Carrots (Appendix IV, ALINORM 79/20)

Monosodium glutamate

101. Several delegations opposed the use of MSG in this product and questioned the level used noting that it had been raised by the Commodity Committee from 500 mg/kg to 2500 mg/kg. It was pointed out that the level was based on consumer preference and national dietary habits. In view of strong opposition the Committee decided not to endorse this provision and considered that countries wishing to use this additive could accept the standard with a specified deviation.

Thickening Agents

102. The Committee postponed the endorsement of starch sodium succinate and tragacanth gum, pending the toxicological evaluation by JECFA.

103. The delegation of Canada drew to the attention of the Committee that the maximum level set should refer to an overall maximum level for all groups of thickeners and not for each group individually. The Committee decided to recommend to the Commission to amend the standard accordingly.

III. FATS AND OILS

A. General Standard for Edible Fats and Oils, not covered by individual Codex Standards (Appendix II. ALINORM 79/17)

Colours

104. The Committee endorsed these additive provisions, noting that the maximum level was set at "limited by GMP" to restore colour lost in processing. However, the delegation of Belgium felt a need for information on the amount of colours present in fats and oils so that this could be included in the calculation of intake. The delegate of India opposed the use of colours in fats and oils as, in his opinion., the use of colours could mislead the consumer as to the real quality of the product.

Flavours

105. The delegation of Canada questioned the use of flavours in fats and oils and, in the absence of technological justification attesting to a need, was not in favour of their use.

Antioxidants

106. The Committee decided to endorse the natural and synthetic tocopherols in order to be consistent with its decisions at former sessions.

107. The Committee decided to recommend the Commodity Committee to revise the Standard in the near future, especially with regard to the setting of maximum levels for additives for which there existed an ADI.

IV. COCOA PRODUCTS AND CHOCOLATE

A. International Standard for Chocolate (ALINORM 79/10)

Alkalizing and Neutralizing Agents

108. The Committee decided to endorse this section noting that these substances were in fact processing aids and were no longer functional in the final product.

V. FISH AND FISHERY PRODUCTS

Canned Mackerel and Jack Mackerel (ALINORM 79/18)

Thickening or jellifying agents

109. The representative of OFCA drew the attention of the Committee to the fact that there was a certain discrepancy in this section, noting that sodium carboxymethyl cellulose and pectins had separate maximum levels. The Committee agreed to bring the maximum levels used into conformity with the maximum level of 20 g/kg for the other thickening agents. The -Secretariat was requested to contact the Chairman of the Commodity Committee in connection with this matter.

110. In accordance with the discussion under Matters of Interest (see paras 26 to 29) the Committee decided that the modified starches should be individually listed in the standard. The delegation of Poland was opposed to the use of modified starches in fish and fishery products.

Proposals for Endorsement of Additives in Edible Ices and in Bouillons and Consommés

I. Edible Ices

111. The Committee had before it document CX/PA 79/10, Part IA-Add. I. In introducing the document on Edible Ices the delegation of Sweden pointed out that the Swedish technical Secretariat had received comments from Denmark, The Netherlands, New Zealand, Poland, Sweden and the UK. The document presented contained these comments and the proposals made by the Secretariat of the Codex Committee on Edible Ices.

112. The decisions of the Committee are tabulated in Part II of Appendix III to this report. A summary of the conclusion of the Committee and other observations made by delegations is given in succeeding paragraphs.

Chlorophyll

113. The Committee recommended that the provision for chlorophyll be deleted, since there was no evidence of its use by the industry and since the JECFA had withdrawn its evaluation of this substance.

α and r -carotene

114. The Committee did not endorse the provision of these substances since it had no evidence of their commercial availability and consequently recommended its deletion.

Amaranth and Ponceau 4R

115. In view of their low ADI and the levels actually used, the Committee endorsed these colours at a level of 50 mg/kg. However, the delegations of Sweden and Finland were opposed to their uses in edible ices. The delegation of the UK requested that these colours be included in the studies on the food additive intake.

Quinoline Yellow. Riboflavin and Curcumln

116. For similar reasons as in paragraph 115 above the Committee endorsed the use of these colours at a level of 50 mg/kg.

Maximum level for colours

117. There was some discussion on the way maximum levels should be set, i.e. whether singly on the basis of actual levels of use or as proposed by the Commodity Committee. The Belgian delegation pointed out that in its view it was a matter both of toxicological and also of technological consideration. The Committee decided to endorse the maximum levels of 50 or 100 mg/kg for single colours, and 300 mg/kg covering the use of a combination of colours. The delegations of the Netherlands, Sweden and Belgium were opposed to this approach.

L-lactic acid and L-malic acid

118. The Committee agreed to endorse temporarily these provisions noting that these were natural enantiomorphs covered by the evaluation of the DL-acids.

L-ascorbic acid

119. The Committee decided not to endorse this substance, since there was no technological justification for its use.

L-tartaric acid

120. The Committee endorsed the use of this additive at a level of 1 g/kg as proposed by the Swedish technical secretariat.

Saccharin

121. The Committee did not endorse the use of saccharin in edible ices intended for general consumption and decided to refer it to the Codex Committee on Foods for Special Dietary uses. The delegation of the UK opposed this decision of the Committee in so far as it related to the use of saccharin in water ices (product group 5) in which it considered the use of saccharin to be technologically necessary.

Carry-over Principle

122. The Committee agreed to recommend to the Commission that a section dealing with the Principle relating to the Carry-over of Additives into foods (see Guide to the Safe Use of Food Additives, CAC/FAL 5-1979) should be included in the Standard.

Gelatine

123. The delegation of Australia drew the attention of the Committee to the inclusion of gelatine in the additive section. The Committee recommended to the Commission that this substance be transferred to the ingredient section and that as a general rule, gelatine should be regarded as an ingredient and not as an additive.

II. Bouillons et Consommés

124. The Committee decided not to endorse provision for the use of chlorophyll and accordingly recommended to the Commission that it be replaced by "chlorophyll copper complex". It also recommended a maximum level of 400 mg/kg for chlorophyll copper complex. The Secretariat was requested to confirm these recommendations in cooperation with the Swiss Secretariat of the Commodity Committee.

L-Magnesium glutamate

125. The Committee did not endorse the use of this additive in bouillons and consommés, being of the opnion that it was only used in foods for dietary purposes.

L-Cysteine

126. The Committee agreed that L-Cysteine, being a natural or nature-identical flavouring substance, was already covered by the General Provision for flavours. Therefore a specific provision for cysteine was not considered necessary.

ENDORSEMENT OF PROVISIONS FOR PROCESSING AIDS

127. The Committee had before it document CX/FA 79/10 - Part IB containing provisions for processing aids in Codex standards requiring endorsement by the Committee. The decisions of the Committee are tabulated in Part III of Appendix III to this report. A summary of the conclusions of the Committee and other observations made by delegations is given in the succeeding paragraphs.

I. Milk and Milk Products

International Standard for Extra Hard Grating Cheese
(Appendix IV of CX 5/70)

Raw Materials

128. The Committee postponed the endorsement of "harmless enzymes to assist in flavour development", requesting the Commodity Committee to indicate the enzymes used in this type of cheese.

II. Fruit Juices

Standard for Blackcurrant Juice

129. The Committee endorsed the provision for nitrogen, noting that there was a need for a specification.

III. Quick Frozen Foods

Standard for Quick Frozen French Fried Potatoes

130. There was some discussion on whether the sulphites were to be considered as additives or as carried over additives. The Committee agreed that the sulphites in this product should be considered as processing aids. The delegation of The Netherlands pointed out that the maximum level of 50 mg/kg was too high. This delegation considered a maximum level of 10 mg/ kg or at the most 20 mg/kg more appropriate. The Committee endorsed the proposed level of 50 mg/kg.

Dimethyl polysiloxane

131. The Committee agreed that this substance should be considered a carried over additive and noted that it would be covered by the Carry-over Principle.

ENDORSEMENT OF CONTAMINANT PROVISIONS IN CODEX STANDARDS

132. The Committee had before it document CX/FA 79/10 - Part II containing contaminant provisions in Codex standards requiring endorsement by the Committee. The decisions of the Committee are tabulated in Part IT of Appendix III to this report. A summary of the conclusions of the Committee and other observations made by delegations is given in the succeeding paragraphs.

I. Fruit Juices

Standard for Nectars of Certain Citrus Fruits
(Appendix VI of ALINORM 79/14)

Maximum Level

133. The representative of SEFEL drew the attention of the Committee to the need for clarification of what is meant by the maximum levels. The Committee agreed with this view and noted that this matter would be discussed later during the Session.

II. Processed Fruits and Vegetables

Standard for Canned Apricots
(Appendix VIII of ALINORM 79/20)

Tin

134. The delegation of Canada requested clarification whether the maximum level for tin referred to the final product, i.e. fruit ingredient plus packing medium, or to the packaging medium only. The Committee postponed endorsement requesting the Commodity Committee to clarify this matter and also to reconsider the maximum level.

Reservations by Delegations

135. The delegations of the Fed. Rep. of Germany, France and Austria maintained their reservations concerning the use of food additives at the standards under consideration which had been made by its members at the Commodity Committees (see also paragraph 74).

CONSIDERATION OF CODEX LISTS OF FOOD ADDITIVES

Guide to the Safe Use of Food Additives

136. The Codex Secretariat introduced the FAO/WHO publication "Guide to the Safe Use of Food Additives", Second Series (CAC/FAL 5-1979). The Committee expressed its thanks to the Secretariat for this useful updated document and also to Dr. Rozenboom who assisted in its preparation. There was general agreement concerning the need for continued and frequent updating. It was noted that computerisation of the data was being considered by FAO to assist in this respect. In reply to a question from the EEC delegate, the Secretariat stated that the numbering system used in the Guide was intended for use in computer handling of the data and not as a suggested code system for international use.

The delegation of The Netherlands suggested that a loose leaf system would assist in updating. The Australian delegation suggested that the setting out of the "first series" and the "supplement to the first series" was preferred to the layout of the Guide. It was maintained that the Guide was not as easy to use because it included both usage and toxicological evaluation for each additive under each item and that this had resulted in a difficult presentation. Furthermore page references had bean omitted. The Secretariat pointed out that the indication of page references had been omitted to facilitate preparation of the document in three languages. The Committee noted the above comments and agreed that the document should be updated periodically and that the format should be reconsidered by the Secretariat.

Codex List B

137. The Chairman introduced this item indicating that List B should be seen as a working list which, needed frequent amendment in view of subsequent decisions of JECFA and changes in the list of additives which were actually in use. Reference was made to Appendix VIII of ALINORM 79/12 which needed modification for these reasons.

138. The Committee had before" it CX/FA 79/2 which was accepted as one source of modification. However it was pointed out that Allura Red had not been evaluated by JECFA in 1979 and that, therefore, this colour should remain on List B.

139. The Committee also had before it CX/FA 79/2-Add. 1 prepared by FITS which maintained that saffron was not used as a colouring agent but as a flavouring agent and

should, therefore, be listed under flavours (Section 7) rather than colours (Section 4). The delegation of the UK pointed out that Section 7 comprised synthetic flavours only and, therefore, saffron being a natural flavour, could not be classified under Section 7. The delegation of India differed with FIVS and maintained that in his country saffron was used as a colour. The Committee agreed to retain saffron within the classification of Colours with the footnote "also used as a natural flavour".

140. The Chairman presented a list of substances, the use of which had in practice been questioned by JECFA (Diethylene glycol monoethylether, diethylene glycol monopropylether and dipropylene glycol). The delegation of Italy confirmed that the first two compounds were used in that country.

141. The use of the following extraction solvents for food use was also questioned! 1, 1, 2-triohloro-trifluorethane, 1, 2-dlchlorotetra-fluoroethane, dichlorofluoromethane, and furfural. The delegation of Italy confirmed that these substances were currently used.

142. With respect to liquid carbon dioxide it was agreed that this entry should be deleted from the List since it was used as the gaseous product.

143. Information from Governments was requested on the use of materials in List B. Specific reference was made to naphtha, petroleum ether, light petroleum, naphtha and hexane.

144. List B as revised by the Committee is included as Appendix IV to this report.

Revised List of Maximum Levels for Some Natural and Matura-identical Flavouring Substances or their Component and the Revised Codex List of Botanicals which should not be used as a Source of Natural Flavours or Flavouring Substances

145. The Committee had before the following documents x

(a) "Review List of Maximum Leyels for some Natural and Nature-identical Flavouring Substances or their Components", CX/FA 79/16 prepared by the Council of Europe.

(b) "Revised Codex List of Botanicals which should not be used as a Source of Natural Flavours or Flavouring Substances", CX/FA 79/3 prepared by the USA.

(c) Addendum 1 to the above documents which contained comments from the International Organisation of the Flavour Industry (IOFI)| and

(d) a revised report of the ad hoc Working Group on Flavours.

146. In introducing document CX/FA 79/6 the representative of the Council of Europe drew attention to the forthcoming third version of the publication entitled "Natural Flavouring Substances, their Sources, and Added Artificial Substances", commonly known as the "Blue Book". The experts of the Council of Europe had prepared a list of maximum levels for biologically active principles present in food as the result of the use of natural flavouring materials. This list was attached as an appendix to document CX/FA 79/6.

147. The delegation of the USA in introducing document CX/FA 79/3 informed the Committee that the revised list of botanicals should not be considered as a list prohibiting the use of certain herbs in food. It was suggested that the list should retain its popular name "the detention list for herbal teas"

148. Mr. Goddijn (Netherlands), acting as rapporteur of the informal ad hoc Working Group on Flavours which met prior to the meeting, reported that the two lists were established for different purposes. The list prepared for the Council of Europe was a list

of tolerances in food for toxic principles in flavouring preparations, whereas the list of botanicals prepared by the USA was a prohibitive list and as such did not permit any tolerance.

The informal Working Group recommended that the title of the list prepared by the Council of Europe be amended to read: "Maximum limits for certain substances, having biological activity, present in food as consumed as a result of the use of natural flavouring materials." In addition the Working Group proposed that the following substances should be placed on the priority list of JECFA: ß -asarone, coumarin, hydrocyanic acid, safrole and thujone.
With respect to the list of botanicals the Working Group suggested that it be divide into
(a) botanicals not used in flavourings
(b) botanicals used in flavourings
(b.1.) those for which the active principles were known
(b.2.) those for which active principles were not known
The Committee noted that IOFI was prepared to undertake this exercise. The rapporteur pointed out that the use of certain natural flavouring materials was limited by the presence of active principles.

149. The delegation of Italy, supported by France, stressed that the residue limits given in the list, were only related to the use of plant materials and did not apply to nature-identical substances. In his view the current use of those plant materials could not be entirely prohibited. However, the intake of the associated toxic principles should be restricte in accordance with the maximum levels as specified.

150. The Committee agreed to amend the title of the list of maximum residue limits as proposed by the informal Working Group. Furthermore The Committee decided to insert ß -asarone, coumarin, hydrocyanic acid, safrole and thujone on the Codex priority list of Food Additives. It was noted that JECFA had already requested data On three of them. The Chairman reminded the Committee that JECFA required data on the intake of these flavours and on detection methods, in addition to toxicological data.

151 The representative of WHO questioned if it was justified to recommend internationally an unavoidable level for a toxic substance. The representative of the EEC supported by the UK and Italy considered that advice should be sought on the setting of limits for such substances from JECFA.

152. The Committee noted that:
(a) these substances had been evaluated by the Council of Europe as well as by other bodies
(b) the limits represented either limits of detection or were based on toxicological and technological considerations and
(c) nearly all of these substances were not used as flavours per se-and should not be used ma food additives - but were present in unavoidable amounts in food resulting from the use of natural flavouring substances.
The Committee decided to refer these substances to JECFA seeking advice on the acceptability of the proposed limits. In addition the Council of Europe was requested to present available data on these substances to JECFA.

153. The Committee decided to issue the list of maximum limits as contained in Appendix T. to Governments for comment. It was also agreed that document CX/FA 79/3 had to be consulted together with its addenda (document CX/FA 79/3 Addendum 1 and CX/FA 79/6 Addendum 1) especially as regards the deletion from the negative list of botanicals certain plants indicated in the addenda documents.

154. The ad hoc Working Group on Flavours was re-established. The following countries and international organisations agreed to participate in the Working Group: The Netherlands, Belgium, Denmark, Fed. Rep. of Germany, Italy, Switzerland, the UK, the USA, the EEC, IOFI and FIVS.

CONSIDERATION OF PROCESSING AIDS

155. The Committee had before it papers prepared by the Netherlands Technical Secretariat (CX/FA 79/12 - Part I and Part II) containing comments of various governments on a draft list of processing aid categories (Part I) and a draft list of processing aids (Part II). In introducing these papers the Technical Secretariat informed the Committee that it considered it appropriate to Include in the comments the report of an ad hoc Working Group on Processing Aids which had met during the 10th Session of the Codex Commission on Fats and Oils. The preparation of part II of the document had been assisted by the comments received from New Zealand, the report of the ad hoc Working Group of the Fats and Oils Committee and the comment of the Association of Microbial Food Enzyme Producers (AMFEP). It was noted that the class names of processing aids in Part II of the draft list took into account the Government comments received.

156. The delegation of the UK questioned the intended scope and purpose of the draft list of processing aids. The technical Secretariat informed the Committee that in preparing the documents on processing aids it had in mind to prepare review of processing aids intended to give insight into the existence of possible health hazards due to the use of processing aids. In this way the list of processing aids could also be useful in the preparation of the Priority List of Food Additives for evaluation by JECFA.

157. The delegation of New Zealand held the opinion that processing aids should be incorporated into Codex Standards. Some delegations considered that it was the responsibility of the Commodity Committees to decide whether or not processing aids should appear in Codex Standards.

158. The delegation of the Fed. Rep. of Germany noted that paras 3 and 4 of the report of the Working Group of the Codex Committee on Fats and Oils described principles for good manufacturing practice in the use of processing aids. However, it felt that paragraph 4 of this report was contradictory in suggesting, that an advisory list of processing aids was a closed list. The delegation suggested that the principles in this report should serve as the basis for a discussions concerning the approach to be adopted in dealing with processing aids within the Codex Alimentarius.

159. The Codex Secretariat noted that processing aids within Codex Alimentarius represented a new activity. Commodity Committees were the appropriate bodies to decide on which processing aids should be incorporated into Codex Standards. On the other hand, this Committee was the right forum to advise the Commission and Codex Commodity Committees on how to approach tills subject. The delegation of Italy indicated to the Committee some of the difficulties that might arise when processing aids are regulated as food additives. This may lead to the need to reconsider the definition of processing aids.

160. Several delegations supported the establishment of an ad hoc Working Group to consider the approach to the subject of processing aids within the Codex Alimentarius. It was agreed that an ad hoc Working Group on Processing Aids should base its work on the report of the Working Group of the Fats and Oils Committee (ALINORM 79/17-Appendix IX) except for the statement in para 4 that the list by its nature was closed.

161. As regards the preparation of an inventory of processing aids used this should be done on the basis of input from Codex Commodity Committees and information from Governments.
An ad hoc Working Group was established to consider the approach to handling processing aids. The following countries agreed to participate: USA (rapporteur), Australia, Belgium, Fed. Rep. of Germany, France, Italy, New Zealand, the UK and the observer from the EEC.

162. The revised list of processing aids as presented to the Committee is given as Appendix VI to this report).

CONSIDERATION OF THE REPORT OF THE WORKING GROUP OF SPECIFICATIONS

163. The Committee had before it the report of the ad hoc Working Group on Specifications (CX/FA 79/7). In introducing the report, the Chairman of the Working Group, Mr. D.P. Dodgen (USA) informed the Committee that the Working Group had been requested to consider, in the light of government comments, specifications for the identity and purity of food additives contained in FAO Food and Nutrition Papers Nos. 4, 5 and 7.

164. The Working Group, however, had concluded that it could not undertake review of the specifications because of the lack of comments received, due to the very short time available for submission.

165. The Working Group, therefore, postponed its review of the specifications until the next meeting and recommended that the Secretariat again request comments. It noted, however, an irregularity concerning the status of FAO Nutrition Report Series Nos. 1B and 57, which were reviewed in 1978 and which contained more current specifications, than the FAO Food and Nutrition Papers Nos. 4 and 7. These later specifications were scheduled for review at this meeting. A detailed analysis of this situation is summarized in Appendix VII of this report.

166. In addition the Working Group had discussed several other matters in relation to the specifications. The conclusion of these discussions are also presented in Appendix VII to this report.

167. The delegation of Switserland supported strongly the views of the Working Group, and maintained that JECFA specifications should at first only be referred to Codex member states and interested International Organisations at Step 3 and that specifications, once adopted by the Commission, should be printed, preferably in a loose leaflet system. Furthermore, the Swiss delegation considered that existing specifications, such as those of the Food Chemical Codex and of the BM should be given more consideration.

168. The Secretariat pointed out that Fad in fact considering such a learns leaf system and that JECFA specifications would be considered as draft suggestions sad Codex specifications as final. These procedures would be made clear in a circular letter to be issued by the Secretariat.

169. The Committee agreed with these views and with the recommendations made by the Working group.

170. The Committee agreed that the ad hoc Working Group should continue its work under the Chairmanship of the USA. The following countries agreed to participate; Brazil, Canada. Denmark, France, Ireland, Italy, Japan, The Netherlands and

Switzerland. The TO would decide on its participation at a later date. Since Greece and Guyana were not present, an invitation would be conveyed to these countries. The EEC would participate as an observer. There was some discussion on the possible participation of other organizations. The Secretariat pointed out that it was - in the process of revising the list of interested International Organizations which would be used for Invitation purposes.

DRAFT STANDARD FOR FOOD GRADE SALT

171. The Committee had before it Annex III of ALINORM 79/12 and document CX/FA 79/13, containing a summary of the comments received on this item, which was prepared and introduced by the Netherlands delegation. The comments demonstrated that the elaboration of a specification (or standard) for food grade salt was already at an advanced stage. Comments recieved were mainly concerned with methods of analysis for the determination of, and actual levels of contaminants in, salt.

172. The rapporteur noted several views that food grade salt per se should be considered as a food and not as a food additive. In the subsequent discussion, the delegation of Australia supported by The Netherlands and New Zealand expressed strong preference for a standard whereas the delegations of Italy, the United States, Switzerland, France and Brazil were in favour of postponing a decision on this issue until analytical methods were established. The delegation of Italy also pointed out that it would be necessary to Include an analytical method for the determination of the minimum content of sodium chloride expressed on a dry weight basis.

173. The Codex Secretariat considered that because salt was a food and not a food additive the best means of advancing the product through the Codex System was as a food standard. It also suggested that the matter should be referred for comments to the Regional Coordinating Committees.

174. on the basis of information on actual contaminant levels received, the rapporteur suggested that the levels for several contaminants should be lowered. The Committee agreed to maintain the present level for lead at 2 mg/kg and to lower the following arsenic 1 mg/kg, cadmium 0,5 mg/kg, mercury 0,1 mg/kg, on the understanding that these levels were still provisional. The delegation of the UK considered that the. available information was not yet sufficient to justify a redaction in the level mercury.

175. Furthermore, it was decided to amend the chemical nomenclature of anticacking agents in accordance with the document CAC/FAL 5-1979 "Guide to the Safe Use of Food Additives" (Second Series).

176. The Committee decided to establish an ad hoc Working Group on Methods of Analysis and Sampling for this product with participation from the following delegations and observers. European Committee for the Study of Salt (ECSS) .(Chairman), Brazil, India and the USA. Documents on Methods of Analysis Sampling which had already been received would be forwarded to the Chairman of the Working Group by the Delegation of the Netherlands.

177. As the Committee was convinced of the need to advance the [standard] for food grade salt, it was decided. to forward it to Step 5 of the Procedure for consideration at the 13th Session of the Commission. It was recommended that the {standard} also be referred to Regional Coordinating Committees for consideration. The" Commision was requested to give guidance concerning the way the[standard]should be further elaborated

PRIORITY LIST FOR FOOD ADDITIVES AND CONTAMINANTS

178. The Committee had before it the report of the ad hoc Working Group (WG 6) which was introduced by its Chairman Dr. Gunner, Canada. (See Appendix VIII to this report). Dr. Gunner explained that the Working Group had used the following criteria in arriving at their list of compounds:
(a) current and potential inclusions in recommended Codex Standards)
(b) the "3-session rule" whereby if sufficient data had not been available for JECFA evaluation within three years of placing a substance in the priority list it would be relegated again to List B.
He also indicated that compounds which had been referred to JECFA on previous occasions, but which had not been fully evaluated by JECFA, had not been included again on the Priority List.

179. WG 6 had not included benzoin gum because of lack of information as to its identity and technological purpose. The Secretariat was asked to clarify these aspects with the group dealing with milk and milk products.

180. The Chairman noted that emulsifiers were not on the list as in that of the previous year (ALINORM 78/12, Appendix VI). It was explained that these substances were "in the system", i.e. being processed by the Secretariat of JECFA. This in turn raised many questions from delegations as to the procedures involved. The WHO representative gave the following clarification: The Committee's priorityilist could not automatically enter JECFA's evaluation agenda. First there was a time lags the current priority list was now being produced several weeks behind the decision as to JECFA's 1980 agenda. Second, the Committee's priority list was only one of the sources albeit an important one, for the WHO and FAO lists which formed the basis of the JECFA agenda (see also paragraph 150).

181. The Committee wished to be informed concerning the status and identity of the compounds which were "in the system". The Secretariat agreed to list and comment on those compounds for information of the Committee and those interested in supplying data to JECFA.

182. The delegation of the TO felt that when the Committee's priority list appeared, industry should be requested only to indicate whether data were available for JECFA's evaluation. Data should not be submitted until requested on the basis of the JECFA agenda and adequate time for their submission should be allowed. The representative of MHO regretted that inadequate facilities were available for storing such data if supplied too far in advance of the JECFA session and which in any case could be out of date before a compound was actually evaluated. At the request of the Chairman the JECFA Secretariat offered to reconsider the current procedures.

183. In the light of the explanation on procedures the delegations of Australia and the UK considered that the "3-session rule" served no useful purpose. However, it was agreed that the rule should not be suspended pending the above-mentioned reconsideration of procedures by the Secretariat.

184. The Committee also noted comment from the delegation of Australia that the Codex Priority List was not in fact a priority list but was a list of substances which were not in the JECFA "system". It was maintained that there were many food additives included in list B on which priority for evaluation should be given by JECFA, over and above some of the substances included in the priority list. The representative of the WHO agreed with this statement, and agreed that this matter could be partly overcome

by the inclusion of statement in the "priority list" stating that substances which had been considered by JECFA and for which an ABI had not been given, would be taken into consideration in the formulation of the JECFA agenda.

185. The delegation of Austria put forward a reasoned plea for the Committee to concern itself with the formation and occurrence in foods of naturally occurring and environmental toxicants (such as mycotoxins, nitrosaminea, PCB's and polycyclic aromatic hydrocarbons) with the object of formulating guidelines for their reduction.

186. The Committee sympathised with this proposal and the Chairman pointed out that the Codex Commission had discussed the question of setting limits for such contaminants. The WHO representative outlined some of the problems involved in tackling this Question, fie explained how the setting of tolerances, guidelines, legal limits or action levels could lead to more problems than they solved leading to a false sense of security and the unnecessary destruction of food. The Committee was also informed concerning the food monitoring programme and its relevance to this question and agreed to wait until the results of this programme were available.

CONSIDERATION OF SAMPLING PLANS FOR THE DETERMINATION OF CONTAMINANTS

187. The Committee had before it CX/FA 78/8, a paper with the above title prepared by The Netherlands. It was introduced by the Chairman who explained the issues involved and pointed out that their complexity did not make them any the less urgent for resolution.

188. The Committee noted that the basic objective of sampling plans for the purpose of the Codex Alimentarius was to provide a harmonized approach to the enforcement of Codex maximum levels for contaminants consistent with fair practice In international trade.

189. The Committee also noted that there were basically two issues involved which had a certain degree of interaction, viz. (a) setting, and (b) enforcing, satisfactory maximum levels which would minimize food wastage whilst safeguarding public health.

190. In setting maximum levels a combination of parameters needed to be considered including the type of food, the nature of the contaminant and the accuracy and sensibility of available analytical methods as well as analytical results from a wide spectrum of sources and also toxicological considerations. It would also be necessary to consider the method of enforcement envisaged.

191. It was noted that, in enforcing maximum levels for contaminants (i.e. establishing sampling plans) there was again a combination of similar factors to be considered including the non-homogeneity of the contaminant in the food, the nature of the food and the nature of the analytical method. On the other hand the sampling procedure depended also on the way the maximum level was defined in relation- to a consignment of food.

192. The representative of SEFEL, on the basis of experience in the canning industry, recommended that the maximum level should be defined in such a way that the average of the sample would be used in checking compliance (as with FDA regulations on evaporated milk and EEC pesticide regulations). Such an approach was particularly logical with cumulative/ chronic contaminants such as lead and some pesticides. The Committee noted that the Codex Committee on Pesticide Residues had adopted such an approach.

193. Although these concepts received some support from the Committee, there was an obvious need for information on which to make more precise recommendations. A variety of suggestions was put forward as to how to proceed with the necessary urgency. The Committee finally agreed with the suggestion of the Danish Delegation that Governments and international bodies should be asked to comment on Document CX/PA 79/8. Governments should also be requested to indicate what approach they followed in sampling food consignments to check compliance with maximum levels for contaminants.

194. The delegation of the USA agreed to collate and analyse the replies received, and to prepare a report for the Committee's consideration at its next Session.

DATE AMD PLACE OF NEXT SESSION

195. The Committee noted that its next Session would take place in The Hague in October or November 1980, at a date to be agreed between the Government of the Netherlands and the Codex Alimentarius Commission.

VALEDICTION

196. The Committee expressed its appreciation to the retiring Chairman. Dr. G.F. Wilmink (The Netherlands), for his leadership and guidance as Chairman and his long and active support of the Committee's work in the portection of public health. The Committee wished Dr. Wilmink a long and healthy retirement.

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APPENDIX II

DRAFT GENERAL STANDARD FOR IRRIDIATED FOODS

Report of an ad hoc Working Group (WG 5)

1. The WG 5 met under the chairmanship of Dr. A. Brynjolfsson, USA, assisted by Dr. J. van Kooij (IAEA) as secretary. The following participated in the works Dr. J. Brum (Canada), Dr. H. Stegeman (The Netherlands), Prof. A. Girard (EFLA) as adviser.

2. The ad hoc WG 5 had before it the Report of the Thirteenth Session of the Codex Committee on Food Labelling (ALINORM79/22) concerning the Endorsement of Labelling Provisions in the Draft General Standard, and the Report of the 16th Session of the Codex Committee on Food Hygiene concerning the endorsement of the hygiene provisions of the Standard.

3. The Working Group noted the endorsement of. the Codex Committee on Food Labbelling and the Codex Committee on Food Hygiene and considered that their comments should be incorporated into the Draft Standard with minor exception.

4. The Working Group recommended acceptance of the Labelling Committee's version of paragraph 5 as this, although more specific, conveyed the same meaning as was intended in the original version.

5. The Working Group recommended amendments to paragraphs 2.3.1. 3 and 4 to clarify that treatment of the irradiated food should at all times be in accordance with good manufacturing practice. In paragraph 2.3.1. the Working Group had thus provided that the facilities should be designed to meet good hygienic practices.

Paragraph 3 had been amended as follows:

"In order to protect the health of the consumer, irradiated foods shall be. safe and wholesome, not only from the toxicological but also from the nutritional and microbiological points of view. The food should always.; comply with the provisions of the General Principles Of Food Hygiene and where appropriate with Codes of Hygienic Practices relative to a particular food".

The Working Group considered this amended wording acceptable and in accordance with the meaning of the original version.

6. The Working Group recommended that the Food Hygiene Committee proposal should be accepted with respect to paragraph 1. This paragraph now reads as follows:

"This standard refers to irradiated foods and to the irradiation aspects of the processing and handling of foods. It does not apply to foods exposed to doses of 1000 rad (10 Gy)".

The Working Group recommended that the General Standard should not apply to foods irradiated at doses below 1000 rad since some countries permitted exposure of food up to 1000 rad for the purpose of inspection or. monitoring conventional food processing.
The present Draft General Standard was never intended to be used for ex posure of radiation doses below 1000 rads.

7. The Working Group accepted the Food Hygiene Committee's proposal that paragraph 2.2. be modified to clarify the "General acquirements for the Process".

8. The Working Group recommended that the Standard be advanced to Step 8 of Codex procedure.

List of recommended amendments to the Draft General Standard for Irradiated Foods (Advanced to Step 8 - see ALINORM 79/12. page 63)

1. Scope

This standard refers to irradiated foods and to the irradiation aspects of the processing and handling of foods. It does not apply to foods exposed to doses emitted by measuring instruments used for inspection purposes.

2.2. The dose absorbed by any part of the food shall not exceed the dose limit specified for each individual food irradiation treatment in ANNEX 1 of this standard.

2.3.1. Such facilities shall be designed to meet the requirements of safety, efficacy, and good hygienic practices of food processing.

3. (add the following sentence)
The food should always comply with the provisions of the General Principles of Food Hygiene and, where appropriate, with Code of Hygienic Practice relative to a particular food.

5. Labelling

The name or description of foods which have been treated with ionizing radiation shall Include a statement that they have been-so treated, e.g. "product (chicken papaya, ...) treated by irradiation, or "processed by ionizing radiation", or "processed by electron- or gamma-radiation". Where labelling is not feasible, e.g. bulk containers of potatoes, this statement shall be made in accompanying documents and the consumer shall be so advised at the point of purchase, for all irradiated foods, the relevant documents shall give appropriate information to identify the registered facility which has irradiated the food, the date of treatment and lot identification.

Annex 1

1.2.2. This section is to be deleted.

6.1 (b) To reduce the number of Certain pathogenic microorganisms in packaged or unpackaged fish fillets.

6.2.2. Temperature Requirement

During irradiation the product shall be kept at the temperature of melting ice.

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 13th Session.

Abbreviations used

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

Contents

I MILK AND MILK PRODUCTS

A. General Standard for Named Variety Process(ed) Cheese and Spreadable Process(ed) Cheese - Step 7
(CX 5/70 - 19th Session, Appendix III-A; Standard A-8(a))

	Maximum level in the final product	Para	Status of Endorsement
1 Emulsifiers			
(a) Sodium, potassium and calcium salts of the mono-, di- and polyphosphoric acids		(a) 80	E
(b) Sodium-aluminium salts of the mono-, di- and polyphosphoric acids		(b) 80	EP [1]
(c) Sodium, potassium and calcium salts of citric acid	40 g/kg singly or in combination, calculated as anhydrous substances except that added phosphorus compounds should not exceed 9 g/kg, calculated as phosphorus		E
(4) Citric acid and/or phosphoric acid with sodium hydrogen carbonate and/ or calcium carbonate			E
2 Acidifiers/pH controlling agents			
(a) Citric acid			E
(b) Phosphoric acid			E
(c) Acetic acid			E
(d) Lactic acid			E
(e) Sodium hydrogen carbonate and/or calcium carbonate			E

[1] EP, pending evaluation by the JECFA (see para 80)

			Maximum level in the final product	Para	Status of Endorsement
3		Colours			
	(a)	Annatto	Limited by Good Manufacturing Practices (GMP)	81	EP [1]
	(b)	Beta-carotene			EP [1]
	(c)	Chlorophyll incl. copper chlorophyll (CI Bo. 75810)			EP [1]
	(d)	Riboflavin			EP [1]
	(e)	Oleoresin of paprika			EP [1]
	(f)	Curcumin			EP [1]
4		Preservatives			
4.1	(a)	Either sorbic acid and its sodium and potassium salts	3000 mg/kg singly or in combination expressed as the acids [4]	82, 83	EP [2]
	(b)	or propionic acid and its sodium and calcium salts			EP [2]
4.2		Nisin	12.5 mg of pure nisin per kg		EP [2]

B. General Standard for Process (ed) Cheese and Spreadable Process (ed) Cheese – Step 7

(CX-5/70-19th Session, Appendix III-B; Standard A-8(b))

(Same provisions as in General Standard A-8 (a); see A. above)

C. General Standard for Process (ed) Cheese Preparation: Process (ed) Cheese Food and Process (ed) Cheese Spread - Step 7 (para 67)

(CX-5/70-19th Session, Appendix III-C; Standard A-8 (c))

(Same provisions as in General Standard A-8 (a); see A. above plus the following)

5		Flavour enhancers			
		Sodium glutamate	Limited by GMP	85, 86	EP [3]

[1] EP, requesting the setting of a maximum level in the final product and requesting clarification on the types of cheese for which the colours are needed (para 81)

[2] EP, requesting more information on the technological justification and the levels proposed (para 82, 83)

[3] EP, requesting the setting of a maximum level

[4] the maximum level will be repeated separately under (a) and (b) as the two preservatives may not be used in combination]

		Maximum level in the final product	Para	Status of Endorsement
6	Other additives			
(a)	Arabic gum			E
(b)	Locust (carob) ean gum			TE
(c)	Karaya gum			EP [1]
(d)	Guar gum			E
(e)	Oat gum			EP [1]
(f)	Tragacanth gum			EP [1]
(g)	Agar-agar	8 g/kg singly or in combination		E
(h)	Carrageenan			E
	Sodium carboxymethylcellulose (cellulose gum)			E
(j)	Sodium, potassium, calcium and ammonium salts of alginic acid			E
(k)	Propylene glycol eater of alginic acid			E
(l)	Pectins			TE

D International Standard for Extra Hard Grating Cheese - Step 6
(CX-5/70-19th Session, Appendix IV; Standard C-35)

1.	Raw materials			
1.1.	Optional additions:			
(a)	Calcium chloride	200 mg/kg of milk used		E
(b)	Harmless flavour producing bacteria		(b) 88	[2]
(c)	Harmless enzymes to assist in flavour development (solids of preparation not to exceed 0.1% of weight of milk used)		(c) 88	[2]
(d)	Copper chlorophyll (colour index Bo. 75860)		(d) 89	E [4]
(e)	Sorbic acid or its sodium or potassium salts	1000 mg/kg calculated as sorbic acid	(e) 90,91	EP [3]

[1] Pending toxicological evaluation by JECFA
[2] The CXFA did not consider this substance a food additive (para 88)
[3] EP, requesting on a clarification of the technological need (para 90, 91)
[4] Chlorophyll was deleted for reasons given in para 89

II PROCESSED FRUITS AND VEGETABLES

A. Standard for Pickled Cucumbers - Step 8; para 75, 76
(ALINORM 79/20-14th Session, Appendix III)

		Maximum level in the final product	Para	Status of Endorsement
1	Solubilizing and dispersing agents [2]			
(a)	Polysorbate 80 (polyoxyethylene/20 sorbitan monooleate)	500 mg/kg, singly or in combination	93	E
(b)	Xanthan gum			E
c)	Gum tragacanth			EP [1]
(d)	Gum arabic			E
(e)	Alginates (Ca, NH_4, Na, K Salts)			E
(f)	Propylene glycol alginate			E
(g)	Carrageenan and furcellaran			E
2	Firming agents			
(a)	Aluminium ammonium sulphate	250 mg/kg, singly or in combination	(a) 94	EP [1]
(b)	Aluminium potassium sulphate		(b) 94	EP [1]
(c)	Aluminium sodium sulphate		(c) 94	EP [1]
(d)	Aluminium sulphate		(d) 94	EP [1]
(e)	Calcium (chloride, lactate, gluconate)			E
3	Preservatives			
(a)	Sulphur dioxide (as a carry over from raw product)	50 mg/kg		E
(b)	Benzoic acid or its sodium and potassium salts	1000 mg/kg, singly or in combination		E
(c)	Potassium sorbate			E

[1] EP, pending toxicological evaluation by JECFA (paras 94 and 100)
[2] In products not containing mustard sauce

		Maximum level in the final product	Para	Status of Endorsement
4	Colouring matters			
(a)	Riboflavin			E
	Fast Green FCF			E
	Chlorophylls		(c) 95	E [1]
(d)	Tartrazine 19140			E
(e)	Annatto extract			TE
(f)	Oleoresin of turmeric		(f) 96	EP [2]
(g)	Turmeric	300 mg/kg, singly or in combination		TE
(h)	Sunset Yellow FCF 15985			E
(i)	Bata-Carotene			E
(j)	Paprika			E
(k)	Oleoresin paprika			E
(l)	Brilliant Blue FCF 42090			E
(m)	Caramel natural		(m) 97	E [3]
(n)	Caramel - ammonium sulphite treated			TE
5	Thickening agents (in mustard type only)			
(a)	Modified starches approved by CAC		(a 98	EP [4]
(b)	Xanthan gum		(b) 99	EP [5] EP [5]
(c)	Carrageenan and furcellaran		(c) 99	
(d)	Alginates (Ca, NH_4, Na, K Salts)		(d) 99	EP [5]
(e)	Propylene glycol alginate		(e) 99	EP [5]
(f)	Pectins (amidated and non-amidated)	according to Good Manufacturing Practice	(f) 99	EP [5]
(g)	Gum tragacanth		(g) 100	EP [2]
(h)	Gum guar			E
(i)	Gum arable			E
(j)	Carboxymenthylcellulose, sodium		(j) 99	EP [5]
(k)	Carob bean (locust bean) gum			TE

[1] Endorsement is limited to the chlorophyll copper complex (para 95)
[2] EP, pending toxicologic evaluation by JECFA (para 96)
[3] The provision is regarded as being meant for caramel (plain) (para 97)
[4] EP, requesting specifications of the modified starches (para 98)
[5] EP, requesting the setting of a maximum level in the final product (para 99)

		Maximum level in the final product	Para	Status of Endorsement
6	Acidifiers			
	(a) Acetic acid			E
	(b) Lactic acid	according to Good		E
	(c) Malic acid	Manufacturing Practice		E
	(d) Citric acid			E
7	Flavours			
	(a) Natural flavours and nature-identical flavours, as defined in the Codex Alimentarius list of additives, CAC/FAL 5-1979	according to Good Manufacturing Practice		TE
	B. Standard for Canned Carrots - Step 8 (ALINORM 79/20, 14th Session, Appendix IV)			
1	Monosodium glutamate	2500 mg/kg	101	NE [1]
2	Thickening agents			
	To be used only when butter or other animal or vegetable fats or oils are used as ingredients as in a "sauce pack".		103	
2.1	Modified starches			
	(a) Acid-treated starches			
	(b) Alkali-treated starches	10 g/kg [2]		
	(c) Bleached starches	singly or in		E
	(d) Distarch phosphate	combination		
	(e) Distarch phosphate, phosphated			

[1] NE (see para 101)

[2] The maximum level referring to the overall maximum level for the thickening agents

	(f) Monostarch phosphate			
	(g) Starch acetate			
	(h) Starch, hydroxypropyl			
	(i) Distarch adipate, acetylated			
	(j) Distarch glycerol, hydroxypropyl			
	(k) Distarch phosphate, acetylated			
	(l) Distarch glycerol, acetylated			
	(m) Distarch glycerol			
	(n) Oxidized starches			
	(o) Distarch phosphate, hydroxypropyl			
	(p) Starch sodium succinate		(p) 102	EP 1
2.2	Vegetable gums			
	(a) Arabic gum	10 g/kg singly [2] or in combination		E
	(b) Carrageenan and Farcellaran			E
	(c) Guar gum			E
	(d) Gum tragacanth		(d) 102	EP 1
	(e) Carob bean (locust bean) gum			TE
2.3	Alginates			
	(a) Ammonium alginate	10 g/kg singly [2] or in combination		E
	(b) Calcium alginate			E
	(c) Potassium alginate			E
	(d) Sodium alginate			E
	(e) Propylene glycol alginate			E
2.4	Pectins (Amidated and non-Amidated)	10 g/kg singly [2] or in combination		TE

C. Standard for Canned Apricots - Step 5
(ALINORM 79/20-14th Session, Appendix VIII)

1.	Flavours		
1.1	Natural fruit essences		
1.2	Natural flavours and nature identical flavours as defined in the Coder. Alimentarius List of Additives, CAC/FAL 5-1979	Limited by GMP	TE

[1] EP, pending toxicological evaluation by JECFA (para 102)
[2] The maximum level referring to the. overall maximum level for the thickening agents

III QUICK FROZEN FOODS

A. Standard for Quick Frozen Broccoli - Step 8
(ALINORM 79/25-12th Session, Appendix III)

1. Carry Over Principle

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

	Para	Status of Endorsement
1.2. This Section reads as follows: The presence of an additive in food, through the application of the Carry-Over Principle, is generally permissible if: (a) The additive is permitted in the raw materials or other ingredients (including additives) by an applicable Codex standard or under any other acceptable provision which takes into account the health requirements of food additives; (b) the amount of the additive in the raw material or other ingredient (including additives) does not exceed the maximum amount so permitted; (c) the food into which the additive is carried over does not contain the additive in greater quantity than would be introduced by the use of the ingredients under proper technological conditions or manufacturing practice; and (d) the 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.		E
B. Standard for Quick Frozen Cauliflower - Step 8 (ALINORM 79/25-12th Session, Appendix IV) (Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)		E
C. Standard for Quick Frozen Brussels Sprouts - Step 8 (ALINORM 79/25-12th Session, Appendix V) (Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)		E
D. Standard for Quick Frozen Green Beans and Quick Frozen wax Brans - Step 8 (ALINORM 79/25-12th Session, Appendix VI) (Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)		E

E. Standard for Quick Frozen Corn-on-the-Cob - Step 6
(returned) (ALINORM 79/25-12th Session, Appendix VII)
(Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)

F. Standard for Quick Frozen French Fried Potatoes - Step 8
(ALINORM 79/25-12th Session, Appendix VIII)

		Maximum level in the final product	Para	Status of Endorsement
1	Sequestrants			
1.1	Disodium dihydrogen pyrophosphate	100 mg/kg singly or in combination		E
1.2	Tetrasodium pyrophosphate	(Phosphates expressed as P_2O_5)		E
1.3	Ethylene diamine tetra-acetic acid (Ca-diNa salt)			E
1.4	Ascorbic acid			E
1.5	Citric acid	Limited by GMP		E
1.6	Malic acid			E
2.	Carry-Over Principle			
2.1.	"Section 3" of the "Principle Relating to the Carry-Over of Additives into food" shall apply.			
2.2.	This section reads as follows: "The presence of an additive in food, through the application of the Carry-over Principle, is generally permissible if:			
	(a) the additive is permitted in the raw materials or other ingredients (including additives) by an applicable Codex standard or under any other acceptable provision which takes into account the health requirements of food additives;			E
	(b) the amount of the additive in the raw materials or other ingredient (including additives) does not exceed the maximum amount so permitted;			
	(c) the food into which the additive is carried over does not contain the additive in greater quantity than would be introduced by the use of the ingredients under proper technological conditions or manufacturing practice; and			
	(d) the 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".			

G. Standard for Quick Frozen Whole Kernel Corn - Step 5
(ALINORM 79/25-12th Session, Appendix IX.)
(Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)

H. Standard for Quick Frozen Carrots - Step 5
(ALINORM 79/25-12th Session, Appendix XIV)
(Same provisions as in the Standard for Quick Frozen Broccoli; see A. above)

IV FATS AND OILS

A. General Standard for Edible Fats and Oils, not covered by individual codex standards (CAC/RS 19-1969)
Revised text at Step 8 Para 107
(ALINORM 79/17-10th Session, Appendix II)

		Maxium level in the final product	Para	Status of Endorsement
1.1	Beta-carotene	Not limited		E at GMP
1.2	Annatto	Not limited		TE at GMP
1.3	Curcumin	Not limited		TE at GMP
1.4	Canthaxanthine	Not limited	104	E at GMP
1.5	Beta-apo-8’-carotenal	Not limited		E at GMP
1.6	Methyl and ethyl esters of beta-apo-8'-carotenoic acid	Not limited		E at GMP
2	Flavours Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value.		105	TE

3		Antioxidants			
3.1		Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination		TE
3.2	(a)	Butylated hydroxytoluene (BHT)	200 mg/kg individually or in combination		TE
	(b)	Butylated hydroxyanisole (BHA)			TE
	(c)	Tertiary butyl hydroquinone (TBHQ)			E
3.3		Any combination of gallates with BHA or BHT, and/or TBHQ	200 mg/kg, but gallates not to exceed 100 mg/kg		TE
3.4		Natural and synthetic tocopherols	Limited by GMP	106	E at GMP
3.5		Ascorbyl palmitate	500 mg/kg individually or in combination		E
3.6		Ascorbyl stearate			
3.7		Dilauryl thiodipropionate	200 mg/kg		E
4.		Antioxidant synergists			
4.1		Citric acid and its sodium salt	Not limited		E
4.2		Isopropyl citrate mixture	100 mg/kg individually or in combination		E
4.3		Phosphoric acid			E
5		Anti-foaming agent			
	(a)	Dimethyl polysiloxane (dimethyl silicone) singly	10 mg/kg		E
	(b)	or in combination with silicon dioxide			E
6		Crystallisation inhibitor			
		Oxystearin	1250 mg/kg		E

B. Standard for Edible Low Erucic Acid Rapeseed Oil-Step 8
(ALINORM 79/17-10th Session, Appendix III)

Same provisions as in the General Standard for Edible Fats and Oils, not covered by individual codex standards plus in section 4.4 Antioxidant synergists:

4.4.4	Monoglyceride citrate	100 mg/kg individually or in combination with 4.2 and 4.3	E

C. Standard for Edible Coconut Oil-Step 8
(ALINORM 79/17-10th Session, Appendix IV)

Same provisions as in the Standard for Edible Low Erucic Acid Rapeseed Oil, except for TBHQ and oxystearin, which are not included.

D. Standard for Edible Pain Oil - Step 8
(ALINORM 79/17-10th Session, Appendix V)
Same provisions as in the Standard for Edible Low Erucic Acid Rapeseed Oil, except for oxystearin, which is not included. How in this standard is the inclusion of TBHQ.

E. Standard for Edible Palm Kernel Oil - Step 8
(ALINORM 79/17-10th Session, Appendix VI)
Same provisions as in the Standard for Edible Low Erucic Acid Rapeseed Oil, except for TBHQ and oxystearin, which are not included.

F. Standard for Edible Grapeseed Oil-Step 8
(ALINORM 79/17-10th Session, Appendix VII)
Same provisions as in the Standard for Edible Low Erucic Acid Rapeseed Oíl, except for TBHQ, which is not Included.

G. Standard for Edible Babassu Oil - Step 8
(ALINORM 79/17-10th Session, Appendix VIII)
Same provisions as in the Standard for Edible Low Erucic Acid Rapeseed Oil, except for TBHQ and oxystearin, which are not included.

V. COCOA PRODUCTS AMD CHOCOLATE

A. International Standard for Chocolate (at Step 9) - Amendment at Step 5
(ALINORM 79/10-13th Session, Appendix: number not yet available)

	FOOD ADDITIVES	Para	Status of Endorsement
1	Alkalizing and neutralizing agents carried over in proportion to the maximum quantity as provided for in the Standard for Cocoa (Cacao) Beans, Cocoa (Cacao) Nib, Cocoa (Cacao Mass, Cocoa Press Cake and Cocoa Dust (Cocoa Fines).	108	E

2	Emulsifiers	Maximum level in the final product	Food	Para	Status of Endorsement
2.1	Mono- and di-glycerides of edible fatty acids	15 g/kg	Products described under 2.1 and 2.2 of the standard		E
2.2	Lecithin	5 g/kg of the acetone insoluble component of lecithin	Products described under 2.1.1- 2.1.10 of the standard and the corresponding Flavoured Products		E
		10 g/kg of the acetone insoluble component of lecithin	Products described under 2.1.11 - 2.1. 14 of the standard and the corresponding Flavoured Products		E
2.3	Ammonium salts of phosphatidic acids	7 g/kg	Products described under 2.1.1 - 2.1.10 of the standard and the corresponding Flavoured Products		E
2.4	Polyglycerol polyricinoleate	5 g/kg	" "		E
2.5	Sorbitan monostearate	10 g/kg	" "		E

2.6	Sorbitan tristearate	10 g/kg	"	"	E
2.7	Polyoxyethylene (20) sorbitan monostearate	10 g/kg	"	"	E
2.8	Total emulsifiers	15 g/kg singly or in combination	"	"	E
3	Flavouring agents				
3.1	Natural flavours as defined in the Codex Alimentarius, and their synthetic equivalents, except those which would imitate natural chocolate or milk flavours	in small quantities to balance flavour	Products described under 2.1		TE
3.2	Vanillin				E
3.3	Ethyl vanillin				E
3.4	Natural flavours as defined in the Codex Alimentarius, and their synthetic equivalents, except those which would imitate natural chocolate or milk flavours	in sufficient quantities as to impart to the product the organoleptic characteristics	Products described under 2.2		E
3.5	Vanillin	claimed in the name of the food			E
3.6	Ethyl vanillin				E

B. Standard for Composite and Filled Chocolate - Step 5
(ALINORM 79/10-13th Session, Appendix ; number not yet available)

FOOD ADDITIVES

1 Composite Chocolate
Food additives carried over in proportion to the maximum quantities as provided for in the Standard for Chocolate

2 Filled Chocolate

2.1 Coating: as permitted under section 4 of the Standard for Chocolate - see A. above.

2.2 Centre: as permitted in the standards concerning the products and/or the ingredients which constitute the centre.

VI FISH AND FISHERY PRODUCTS

Canned Mackerel and Jack Mackerel - Step 6-8
(ALINORM 79/18-15th Session, Appendix and paras numbers not yet available)

	Thickening or jellifying agents (for use in packing medium only)	Maximum level in the final product	Para	Status of Endorsement
(a	Sodium carboxymethyl cellulose (CMC)	2.5 g/kg	(a) 109	E [3]
(b)	Pectins	2.5 g/kg	(b) 109	TE[3]
(c)	Modified starches		(c) 110	E [1]
(d)	Agar			E
(e)	Carrageenan			E
(f)	Guar gum	20 g/kg (total) singly or in		E
(g)	Carob bean gum	combination		TE
(h)	Alginic acid and its Ca, K and Na salts			E
(i)	Xanthan sum			E
(j)	Tragacanth gum			EP [2]

[1] Requesting specification of the modified starches individually (para 110)
[2] EP, awaiting evaluation by JECFA
[3] Recommended that this additive be included in the total maximum level of 20 g/kg (see para 109).

ALINORM 79/12-A
APPENDIX III-Part II

ENDORSEMENT OF MAXIMUM LEVELS FOR FOOD ADDITIVES IN EDIBLE ICES AND IN BOUILLONS AND CONSOMMES

A. Edible Ices

	Additive	Maximum level	Para	Status of Endorsement
1.	Colours		117	
1.1	Chlorophyll	100 mg/kg singly [7]	113	NE [1]
1.2	α -carotene		114	NE [2]
1.3	γ -carotene		114	NE [2]
1.4	Amaranth	50 mg/kg singly	115	E
1.5	Ponceau 4 R		115	E
1.6	Quinoline yellow		116	E
1.7	Riboflavin		116	E
1.8	Curcumin		116	E
2.	Acids. Bases and Salts			
2.1	L-ascorbic acid	Limited by GMP	119	NE [3]
2.2	L-lactic acid		118	TE
2.3	L-malic acid		118	TE
2.4	L-tartaric acid and Na and K salts	1 g/kg	120	E
3.	Miscellaneous			
	Saccharin and Na and Calcium salt	400 mg/kg	121	NE [4]
B.	Bouillons and Consommés			
1.	Colours			
1.1	Chlorophyll	Limited by GMP	124	NE [5 1]
2.	Flavour Enhancers			
2.1	Magnesium L-glutamate	Limited by GMP	125	NE [4]
3.	Flavours			
3.1	Cysteine	100 mg/kg	126	EP [6]

[1] NE, since there is no evidence of its use by the industry(para 113)
[2] NE, since there is no evidence of its commercial availability (para 114)
[3] NE, since there was no evidence for a technological justification(para 119)
[4] NE, since it was considered that its use is only Justified in foods for special dietary purposes (para 121)
[5] The Commitee proposed chlorophyll copper oomplex at the maximum level of 400 mg/kg (para 124)
[6] NE, since it is considered a flavour, and therefore its presence is superfluous in this section (para 126)
[7] Subject also to the total maximum level of 300 mg/kg when colours are used in combination.

ENDORSEMENT OF MAXIMUM LEVELS FOR FOOD ADDITIVES IN CODEX COMMODITY STANDARDS

PROCESSING AIDS

Contents

I MILK AND MILK PRODUCTS

International Standard for Extra Hard Grating Cheese - Step 6
(CX 5/70 - 19th Session, Appendix IV, Standard C-35)

	Maximum level	Para	status of Endorsement
- harmless enzymes to assist in flavour development	solids of preparation not to exeed 0.1 % of weight of milk used	128	EP [1]

[1] The enzyme preparation used should be specified (para 128)

II FRUIT JUICES

A. Standard for Blackcurrant Juice Preserved Exclusively by Physical Means – Step 8
(ALINORM 79/14-13th Session, Appendix I)

	Maximum level	Para	Status of Endorsement
1. Clarifying and filtering agents as approved by the Codex Alimentarius Commission and used in accordance with good manufacturing practice			E
2. Vegetable Carbon			E
3. Nitrogen	Limited by GMP	(3) 129	E
4. Carbon dioxide			E

B. Standard for Concentrated Blackcurrant Juice Preserved Exclusively by Physical Means - Step 8
(ALINORM 79/14-13th Session, Appendix II)

Same specifications as in the Standard for Blackcurrant Juice, Preserved Exclusively by Physical Means, see A above.

III QUICK FROZEN FOODS

A. Standard for Quick Frozen Cauliflower - Step 8
(ALINORM 79/25-12th Session, Appendix IV)

	Maximum level	Para	Status or Endorsement
Citric acid or	for use in the blanching or cooling water in accordance with GMP		E

B. Standard for Quick Frozen Corn-on-the-Cob - Step 6 (returned)
(ALINORM 79/25-12th Session, Appendix VII)

Sane specifications as in the Standard for Quick Frozen Cauliflower - see A above.

C. Standard for Quick Frozen French Fried Potatoes - Step 8
(ALINORM 79/25-12th Session, Appendix VIII)

		Maximum level	Para	Status of Endorsement
1.	Sulphite, bisulphite, metabisulphite (sodium or potassium salt)	50 mg/kg, singly or in combination, expressed as SO_2	(1) 130	E
2.	Sodium hydroxide			E
3.	Potassium hydroxide	Limited by GMP		E
4.	Citric acid			E
5.	Dimethyl polysiloxane	10 mg/kg on a fatbasis	(5) 131	[1]

[1] Considered as a carried over additive (para 131)

D. Standard for Quick Frozen Carrots - Step 5
(ALINORM 79/25-12th Session, Appendix XIV)

		Maximum level	
1.	Citric acid	-	E
2.	Sodium hydroxide	-	E

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APPENDIX III –Part IV

ENDORSEMENT OF MAXIMUM LEVELS FOR CONTAMINANTS IN CODEX COMMODITY STANDARDS

Contents

I FRUIT JUICES

Standard for Hectare of Certain Citrus Fruits Preserved Exclusively by Physical Means - Step 5
(ALINORM 78/14-13th Session, Appendix

		Maximum level	Para	Status of Endorsement
1	Arsenic (As)	0.2 mg/kg		E
2	Lead (Pb)	0.3 mg/kg		E
3	Copper (Cu)	5 mg/kg		E
4	Zinc (Zn)	5 mg/kg		E
5	Iron (Fe)	15 mg/kg		E
6	Tin (Sn)	250 mg/kg		TE
7	SUM of copper, zinc and iron	20 mg/kg		E
8	Sulphur dioxide	10 mg/kg		E

II PROCESSED FRUITS AND VEGETABLES

Standard for Canned Apricots - Step 5
(ALINORM 79/20-14th Session, Appendix VIII)

Tin	250 mg/kg, calculated as Sn	134	EP [1]

[1] EP, requesting clarification on the maximum level (para 134)

III COCOA PRODUCTS AND CHOCOLATE

Standard for*[*White*]* Chocolate - step 5
(ALINORM 79/10-13th Session, Appendix: number not yet available)

	Maximum level	
Arsenic	0.5 mg/kg	E
Copper	15 mg/kg	E
Lead	1 mg/kg	E

A. Standard for Composite and Filled chocolate - Step 5
(ALINORM 79/10-13th Session, Appendix : number not yet available)

Composite and Filled Chocolate

		Maximum level in the final product	Food	Status of Endorsement
1	Arsenic (As)	0.5 mg/kg	Products described under 2.1, Chocolate Standard, except Unsweetened Chocolate	E
2	Copper (Cu)	1 mg/kg	Unsweetened Chocolate	E
		15 mg/kg	Products described under 2.1, Chocolate Standard, except Unsweetened Chocolate	E
		20 mg/kg	Unsweetened Chocolate	E
3	Lead (Pb)	1 mg/kg	Products, described under 2.1, Chocolate Standard	E

APPENDIX IV

UP-DATED CODEX LIST B OF FOOD ADDITIVES

Introduction

Codex List B of Food Additives contains those substances, the evaluation of which by the Joint FAO/WHO Expert Committee on Food Additives (JECFA), is pending or the temporary acceptable daily intake of which has been withdrawn by the JECFA.

During the Thirteenth Session of the Codex Committee on Food Additives the revised list published in December 1978 (Appendix VIII, ALINORM 79/12) was up-dated, taking into account the evaluations of food additives made at the 23rd meeting of the JECFA.

In List B the JECFA references are given in those cases where either the JECFA has evaluated analogous substances or where the JECFA has considered the substances without reaching conclusions concerning the acceptability of the additive.

1.	ACIDS, BASES, SALTS	JECFA Ref.
1.1	Acetate, ammonium	
1.13	Fumarate, calcium	(33)
1.14	Fumarate, potassium	
1.19	1,4-Heptanolactone, calcium and sodium salts	
1.25	dl-malate, sodium hydrogen	(49)
1.26	dihydrogen orthophosphate, ammonium (ammonium phosphate, monobasic)	
1.27	hydrogen orthophosphate, diammonium (ammonium phosphate, dibasic)	(30)
	hydrogen orthophosphate, magnesium (magnesium phosphate, dibasic)	
1.29	diphosphate, dicalcium (calcium pyrophosphate) [1]	
1.30	diphosphate, tetrapotassium (potassium pyrophosphate) [1]	
1.31	Phosphate, bone	
1.32	Sodium aluminium phosphate, acidic	
1.33	Sodium aluminium phosphate, basic	
1.34	Triphosphate, pentapotassium [3]	
1.35	Polyphosphate, ammonium [2]	(30)
1.36	Polyphosphate, calcium [2]	
1.37	Polyphosphate, potassium [2]	
1.38	Phytate, calcium	
1.39	Succinic acid	
1.40	Succinate, ammonium	
1.41	Succinate, calcium	
1.42	Succinate, magnesium	
1.43	Succinate, potassium	
1.44	Sulphate, aluminium	
1.45	Sulphate, aluminium-ammonium	(32)
1.46	Sulphate, aluminium-potassium	
1.47	Sulphate, ammonium, potassium and sodium	
1.48	Sulphate, hydrogen, potassium and sodium	
1.49	Sulphuric acid	
1.50	L (+) Tartrate, ammonium	
1.51	L (+) Tartrate, calcium	(35)
1.52	L (+) Tartrate, magnesium	
1.53	Sesquicarbonate, sodium (Na_2CO_3. $NaHCO_3$. $2H_2O$)	
1.54	dl-Tartaric acid and its salts	(41)

[1] See also Item 5.111-5.116, CAC/FAL 5-1979
[2] See also Item 5.125, CAC/FAL 5-1979
[3] See also Item 5.168, CAC/FAL 5-1979

2.	ANTIOXIDANTS	
2.1	4-Hydroxymethyl-2,6-di-tert-butylphenol	
2.2	Calcium ascorbate	(29) (32) (49)
3.	CARRIER SOLVENTS	
3.5	Diethylene glycol monoethyl ether	(38)
3.6	Diethylene glycol monopropyl ether	
3.7	Diethyl tartrate	
3.8	Dipropylene glycol	(35), (38)
3.10	Hexylene glycol	
3.11	Isopropyl myristate	
3.12	Paraffins (not defined)	
3.14	1,2-Propylene glycol acetates	
3.16	Synthetic triglycerides	[1]

[1] See para 105, ALINORM 78/12.,

4.	COLOURS	
4.1	Alkanet	(41) [2]
4.2	Alkanin	(41) [2]
4.3	Allura ltd	(49)
4.4	Anthocyanins (incl. anthocyanine)	41
4.5	Black 7984	41
4.6	Brown FK	41
4.7	Capsanthine	(41) [2]
4.8	Capsorubine	41 [2]
4.9	Carotene (natural)	32
4.10	Carthamus (yellow and red)	41
4.11	Caramel colour (ammonia process)	41
4.12	Chrysoine	41
4.13	Cochineal, carminic acid and carmine	(32), (41)
4.14	Past Red E	41
4.15	Fast Yellow AB	41
4.16	Green 8	(32
4.17	Indanthrene Blue	(32)
4.18	Lithol Rubine BK	(41
4.19	Lycopene	(32 . (41)
4.20		
4.21	Orange RN	(32). (38), (41)
4.22	Orange G	32)
4.23	Orange GGN	(32), (41)
4.24	Patent Blue V	32)
4.25	Ponceau 6R	32 , (41)
4.26	Quercetin and quercitron	41)
4.27	Saffron	(41)
4.28	Scarlet GN [3]	41;
4.29	Silver	(41)
4.30	Ultramarines	41)
4.31	Xanthophylls	41)

[2] JECFA has expressed doubts concerning the availability and use of these substances as food additives.

[3] Also used as a natural flavour (para 139)

		JECFA Ref.
5.	EMULSIFIEPS AND STABILIZERS	
5.1	Ethyl cellulose	(30)
5.2	Sorbitan monolaurate	(30)
5.3	Soroitan monoöleate	(30)
5.4	Starch aluminium octenyl succinate	
5.5	Starch sodium octenyl succinate	
5.6	Starch sodium succinate	
5.7	Oxidized hydroxypropyl distarch glycerol	(38)
5.8	denzoin gum	(41)
5.9	Gum ghatti	
5.10	Karaya gum	(41)
5.11	Cat gum	(41)
5.12	Ouillaia extract	
5.13	Tragacanth gum	41
5.14	Bleached lecithins	(30)
5.15	Hydroxylated lecithin	41
5.16	Esters of glycerol and thermally oxidized soybean fatty acids	38)
5.17	Stearoyl propylene glycol hydrogen succinate	
5.18	Stearoyl monoglyceridyl citrate	
5.19	Succinylated monoglycerides	(30)
5.20	Sodium carooxymethyl distarch glycerol	
5.21	Dioctyl sodium sulphosuccinate	(45)
6.	ENZYMES	
6.1	Ficin	
6.2	Catalase (Aspergillus niger varieties)	
6.3	Carbohydrase (Aspergillus oryzae varieties)	
6.4	Protease (Aspergillus oryzae varieties)	
6.5	Microbial rennet (Bacillus cereus)	
6.6	Catalase (Micrococcus lysodeikticus)	
6.7	Microbial rennet (Irpex lacteus)	
6.8	Microbial glucose oxidase (Penicillium amagasakiense)	
6.9	Microbial carbohydrase (Arthrobacter)	
6.10	Microbial carbohydrase (Aspergillus awamori)	[1]
7.	EXTRACTION SOLVENTS	
7.2	Butane	
7.3	utan-l-ol	
7.4	Butan-2-ol	
7.5	Cyclohexane	
7.7	1,1,2-trichloro-trifluoroethane	
7.8	1,2-dichlorotetrafluoroethane	
7.9	Dichlorofluoromethane	
7.10	1,1-Dichloroethane	
7.11	Furfural	
7.12	Diethyl ether	
7.13	Di-isopropyl ether	
7.14	Methyl ethyl ketone	

[1] See para 108, ALINORM 78/12.

7.15 Iso-cutanol
7.16 Isopropyl acetate
7.19 Methylated spirit (industrial)
7.20 2-Nitropropane
7.21 Naphtha
7.22 Petroleum ether
7.24 n-Propanol
7.25 Toluene
7.26 1,1,1-Trichloroethane
7.27 Trichloroethylene (38)

8.	FLAVOURS [1]	Council of Europe No.	FEM No.	JBCFA Reference
8.1	Acetaldehyde benzyl methoxyethyl acetal	523	2148	
8.2	3-Acetyl-2,5-dimethylfuran	-	3391	
8.3	Acetyl nonanoyl	155	3090	
8.4	Acetyl isovaleryl	-	3190	
8.5	Allyl acetic acid	2004	2843	
8.6	* Allyl cinnamate	334	2022	
8.7		2222	-	
8.8	Allyl cyclohexylacetate	2070	2023	
8.9	Allyl cyclohexylbutyrate	283	2024	
8.10	Allyl cyclohexylhexanoate	2180	2025	
8.11	Allyl cyclohexylpropionate	2223	2026	
8.12	Allyl cyclohexylvalerate	474	2027	
8.13	Allyl 2-ethylbutyrate	281	2029	
8.14	* Allyl furoate	360	2030	
8.15	* Allyl hexanoate	2181	2032	
8.16	* Allyl hexenoate	610	-	
8.17	Allyl-a-ionone	2040	2033	
8.18	* Allyl sorbate	2182	2041	
8.19	Allyl thiopropionate		3329	
8.20	* Allyl tiglate	2183	2043	
8.21	* Allyl phenoxyacetate	228	2038	
8.22	* Allyl undecen-10-oate	441	2044	
8.23	a-Amylcinnamaldehyde dimethyl acetal	47	2062	
8.24	a-Amylcinnamaldehyde	128	2061	
8.25	a-Amylcinnamyl acetate	216	2064	
8.26	a-Amylcinnamyl alcohol	79	2065	
8.27	a-Amylcinnamyl formate	357	2066	
8.28	a-Amylcinnamyl isovalerate	463	2067	
8.29	2-Amyl-5 or 6-keto-l,4-dioxane	2205	2076	
8.30	Anisylacetone	163	2672	
8.31	Benzaldehyde propylene glycol acetal	2226	2130	
8.32	Benzilidene methyl acetone	161	2734	
8.33	2-Benzofurancarboxaldehyde	2247	3128	
8.34	Benzoin	162	2132	
8.35	Benzyl butyl ether	520	2139	
8.36	Benzyl-2,3-dimethyl crotonate	2187	2143	
8.37	Benzyl-4-heptanone	2140	2146	
8.38	Benzyl isobutyl carbinol	2031	2208	

8.39	Benzyl isobutyl ketone	159	2740
8.40	Benzyl isoeugenol	522	-
8.41	Benzyl propyl carbinol	83	2953
8.42	Butan-3-one-2-yl butanoate	-	3332
8.43	2-Butyl-2-butenal	-	3392
8.44	2,3-Butanedithiol	-	3477
8.45	Butyl butyrylglycollate	2188	-
8.46	Butyl butyryllactate	2107	2190
8.47	2-sec-Butylcyclohexanone	-	3261
8.48	2-Bufyl-5 or 6-keto-l,4-dioxane	2206	2204
8.49	a-Butylcinnamaldehyde	127	2191
8.50	Carvacryl ethylether	2057	2246
8.51	Cinnamaldehyde ethyleneglycol acetal	48	2287
8.52	* Cinnamyl anthranilate	255	2295
8.53	* Cinnamyl phenylacetate	235	2300
8.54	Citral propylene glycol acetal	4064	-
8.55	Citronellyl oxyacetaldehyde	2012	2310
8.56	Cyclohexylacetic acid	34	2347
8.57	* cyclohexyl anthranilate	257	2350
8.58	* Cyclohexyl cinnamate	337 .	2352
8.59	cyclohexylethyl acetate	218	2346
8.60	Cyclohexyl mercaptan	529	-

[1] Esters and acetals, the composing acids, alcohols and aldehydes of which have been identified in different foods are indicated with an asterisk. NB. The numbers which are missing have Deen deleted by the 12th session of the Codex Committee on Food Additives (see paras 108-111 of this report).

		Council of Europe No.	FEM No.	JECFA Reference
8.61	Cyclopentanethiol	-	3262	
8.62	Dehydrodihydroionol	-	3446	
8.63	Dibenzyl disulfide	4077	-	
8.64	Dibenzyl ketone	2054	2397	
8.65	Dibehzyl ether	2150	2371	
8.66	Di-(butan-3-one-l-yl) sulfide	-	3335	
8.67	4,4-Dibutyl-y-butyroiactone	2231	2372	
8.68	* Dibutyl sebacate	622	2373	
8. 69	Dicyclohexyl disulfide	-	3448	
8.70	5,7-Dihydro-2-methylthiano (3,4-D) pyrimidine	-	3338	
E.71				
8.72	2,4-Dimethyl-5-acetylthiazole	-	3267	
8.73	2,4-Dimethylbenzaldehyde	-	3427	
8.74	2,5-Dimethyl-2,5-dihydroxy-l,4-dithiane	-	3450	
8.75	2,5-Dimethyl-3~furanthiol	-	3451	
8.76	bis-(2,5-Dimethyl-3-furyl) disulfide	-	3476	
8.77	2,5-Dimethyl-3-thiofuroylfuran	-	3481	
8.78	2,5-Dimethyl-3-thioisovalerylfuran	-	3482	
8.79	2,6-Dimethyl-4-heptanol	4030	3140	
8.80	2,6-Dime thy-5-heptenal	2006	2389	
8.81	2,6-Dimethyloctanal	112	2390	
8.82	2,4-Dimethyl-2-pentenoic acid	4081	3143	
8. 83	* Dimethyl phenyl carbinyl isobutyrate	4240	2388	

8.84	Dimethyl phenylethyl carbinyl acetate	219	2735	
8.85	Diphenyl disulfide	4085	3225	
8.86	spiro-(2,4-Dithia-l-methyl-8-oxabicyclo (3.3.0) octane-3,3'-(1'-oxa-2'-methyl) cyclopentane) and spiro (2,4-dithia-6-methyl-7-oxablcyclo (3.3.0) octane-3,3'-(1'-oxa-2'-methyl) cyclopentane)	-	3270	
e.87	2,2-Dithicdithiophene	-	3323	
8.88	Dodeca-3,6-dional	2121	-	
8.89				
8.90	p-Ethoxyoenzaldehyde	626	2413	
8.91	7-Sthoxy-4-methyl-coumarine	2193	-	
8.92	o-(Sthoxymethyl) phenol	-	3485	
8.93	2-Ethoxythiazole	-	3340	
8.94	Ethyl 2-acetyl-3-phenylpropionate	2241	2416	
8.95	Ethyl benzoylacetate	627	2423	
8.96	* Ethyl butyryllactate	2242	-	
8.97	Ethyl cresoxyacetate	2243	3157	
8.98	Ethyl cyclohexylpropionate	2095	2431	
8.99	Ethyl 2,4-dioxohexanoate	-	3278	
8.100	Ethyl N-ethylanthranilate	629	-	
8.101	Ethyl 2-ethyl-3-phenylpropanoate	-	3341	
8.102	Ethyl furfuracrylate	545	-	
8.103	Ethyl furylpropionate	2091	2435	
8.104	2-Ethyl-2-heptenal	120	2438	
8.105	Ethyl-iso-eugenol	190	2472	
8.106	Ethyl 2-mercaptopropionate	-	3279	
8. 107	Ethyl nitrite	2190	2446	
8.108	Ethyl octine carbonate	480	2448	
8.109	Ethyl 4-phenylbutyrate	307	2453	
8.110	* Ethyl phenyl carbinyl butyrate	628	2424	
8.111	Ethyl 3-phenyl glycidate	2097	2454	(45)
8.112	Ethyl thioacetate	-	3282	
8.113	2-Ethylthiophenol	-	3345	
8.114	* Ethyl 10-undecenoate	2102	2461	
8.115	Ethylene tridecanedioate	4094	-	
8.116	3-Ethyl-2-hydroxy-4-methyl-cyclopent-2-en-l-one		3453	
8.117	5-Ethyl-2-hydroxy-3-methyl-cyclopent-2-en-l-one		3454	
8.118	N-Ethyl-2-isopropyl-5-methyl-cyclohexanecarboxa-mide		3455	
8.119	Ethyl-2-methyl-3-pentenoate	-	3456	
8.120	2-Ethyl-l,3,3-trimethyl-2-norbornanol	-	3491	
8.121	Ethyl methyl phenylglycidate	-	-	(32)
8.122	2-Furanmethaethiol formate	4112	3158	
8.123	2-Purfurylidene butanal	2251	2492	
8.124	Furfuryl isopropyl sulphide	2248	3161	
8.125	Furfuryl thiopropionate	-	3347	
8.126	Geranyl acetoacetate	243	2510	
8.127	Guaiyl acetate	552		

8.128	3-Heptyl-5-methyl-2(3H) furanone		3350
8.129	* trans-3-Heptenyl-2-methylpropanoate	-	3494
8.130			
8.131	a-Hexylcinnamaldehyde	129	2569
8.132	2-Hexylidene cyclopenthanone	167	2573
8.133	Hydroxycitronellal	100	2583
8.134	Hydroxycitronellal diethyl acetal	44	2584
8.135	Hydroxycitronellal dimethyl acetal	45 .	2585
8.136	Hydroxycitronellol	559	2586
8.137	2-Hydroxy-2-cyclohexen-1-one	-	3458
8.138	2-Hydroxy-3,5,5-trimethyl-2-cyclohexenone	-	3458
8.139	6-Hydroxy-3,7-dimethylocatnoic acid lactone	-	3355
8.140	3-(Hydroxymethyl)-2-octanone	-	3292
8.141	y-Ionone	4139	3175
8.142	Isoamyl furylbutyrate	208 0	2070
8.143	Isoamyl furylpropionate	2092	2071
8.144	* Isobornyl formiate	565	2162
8.145	* Isobornyl isovalerate	452	2166
8.146	* Isobornyl propionate	412	2163
8.147	Isobutyl furylpropionate	2093	2198
8.148	Isoeugenyl butylether	2151	-
8.149	* Isoeugenyl formate	356	2474
8.150	*Isoeugenyl phenylacetate	237	2477
8.151	Iso-a-methylionone	169	2714
8.152	p-Isopropyl phenyl acetaldehyde	132	2954
8.153			
8.154	3-(p-Isopropyl)-phenyl propanal	2261	2957
8.155	Isoquinoline	4871	2978
8.156	2-Keto-4-butanethiol	-	3357
8.157	2-Mercap to-3-butanol		
8.158			3502
8.159	3-Mercap to-2-butanone	-	3298
8.160	3-Mercapto-2-pentanone	-	3300
8.161	2,3 or 10-Mercaptopinane	-	3503
8.162	2-Mercaptopropionic acid	4156	3180
8.163			
8.164			
8.165			
8.166	l-(p-Methoxyphenyl)-1-pen ten-3-one	164	2673
8.167	Methoxypyrazine	-	3302
8.168	p-Methylbenayl acetone	160	3074
8.169	Methylbenzyl disulphide	-	3504
8.170	Methyl p-tert-butylphenylacetate	577	2690
8.171	d-Methylcinnamaldehyde	578	2697
8.172	6-Methylcoumarin	579	2699
8.173	Methyl decine carbonate	2111	2751
8.174			
8.175	2-Methyl-3-furanthiol	4172	3188
8.176	Methyl furfuracrylate	2267	-

8.177	2-Methyl-3,5 or 6-furfuryl-thiopyrazine	(2287)	3189	
8.178			-	
8.179	3-(5-Methyl-2-furyl) butanal	-	3307	
8.180	bis (2-Methyl-3-furyl) disulfide		3259	
8.181	bis (2-Methyl-3-furyl) tetrasulfide		3260	
8.182	Methyl heptine carbonate	481	2729	
8.183	5-Methyl-5-hexen-2-one	-	3365	
8.184	a-Methyl-beta-hydroxypropyl-(a-methyl-betamercaptopropyl) sulphide		3509	
8.185	Methyl-iso-butylcarbinyl acetate	2073	-	
8.186				
8.187	Methyl-beta-ionone	144	2712	
8.188	Methyl-delta-ionone	2145	2713	
8.189	a-Methyl-p-methoxy-cinnamaldehyde	584	3182	
8.190	2-Methyl-5-methoxythiazole	4034	3192	
'8.191	Methyl 4-(methylthio) utyrate	-	3412	
8.192	2-Methyl-4-(methylthio) uran	-	3366	
8.193	2-Methyl-3,5 or 6-methylthio-pyrazine	(2290)	3208	
8.194	2-Methyloctanal	113	2727	
8.195	Methyl octine carbonate	479	2726	
8.196	2-Methyl-4-pentenoic acid	-	3511	
8.197	2-Methyl-4-phenylbutanal	134	2737	
8.198	3-Methyl-2-phenylbutanal	135	2738	
8.199	Methyl 4-phenylbutyrate	308	2739	
8.200	3-Methyl-5-propyl-2-cyclohexen-l-one	4178,	3577	
8.201	2-(2-Methylpropyl) yridine	-	3370	
8.202	3-(2-Methylpropyl) yridine	-	3371	
8.203	2-(1-Methylpropyl) thiazole	-	3372	
8.204				
8.205	Methyl styryl carbinol	2032	2880	
8.206	3-Methylthiobutanal	-	3374	
8.207	4-Methylthiobutanal	-	3414	
8.208	4-Methylthio-2-butanone	-	3375	
8.209	Methyl thiofuroate	-	3311	
8.210	3-Methylthio-l-hexanol	-	3438	
8.211	4-Methylthio-4-methyl-2-pentanone	-	3376	
8.212	2-Methyl-3-tolyl-propanal	587	2748	
8.213	Musk ambrette	495	2758	
8.214	Musk ketone	2147	-	
8.215	Musk xylol	2218	-	
8.216	2-Naphthalenthiol	-	3314	
8.217	beta-Naphtyl anthranilate	2170	2767	
8.218	beta-Naphtyl ethylether	2058	2768	
8.219	beta-Naphtyl methyl ketone	147	2723	(49)
8.220	beta-Naphtyl isobutyl ether	2273	-	
8.221	1,9-Nonanedithiol	-	3513	
8.222	Nonanoyl 4-hydroxy-3-methoxybenzylamide	590	2787	
8.223	1,3-Nonanediol acetate	2075	2783	
8.224	3-Nonanon-l-yl acetate	2076	2786	
8.225	Octanon-l-ol	592	2804	

8.226	2-trans-6-trans-Octadienal	-	3466	
8.227	1,8-Octanedithiol	-	3514	
8.228	6-Octenal	664	-	
8.229	Paraldehyde	594	-	[1]
8.230	Pentyl 2-furyl ketone	-	3418	

[1] See para 110, ALINORM 78/12.

		Council of Europe No.	FEM No	JECFA Reference
8.231	Phenoxyethyl isobutyrate	2089	2873	
8.232	4-Phenyl-2-butyl acetate	671	2882	
8.233	2-Phenyl-3-carbethoxy-furan		3468	
8.234				
8.235	Phenylethyl. methyl carbinol	85	2879	
8.236	Phenylethyl methyl ethyl carbinol	86	2883	
8.237	5-Phenylpentanol	674		
8.238	3-Phenyl-4-pentenal		3318	
8.239	2-Phenyl-4-pentenal	-	3519	
8.240	2-Phenyl-l-propanol	2257	2732	
8.241	2-Phenylpropanal dimethyl acetal	2017	2888	
8.242	1,2-Propanedithiol	-	3520	
8.243	2-Phenylpropionaldehyde	126	2886	
8.244	l-Phenyl-2-propyl butyrate	2276	3197	
8.245	2-Phenylpropyl butyrate	285	2891	
8.246	3-Phenylpropyl cinnamate	597		
8.247	2-Phenylpropyl isobutyrate	2087	2892	
8.248	2-(3-Phenylpropyl) tetrahydrofurane	489	2898	
8.249	Piperonyl acetate	2068	2912	
8.250	Piperonyl acetone	165	2701	
8.251	Piperonyl isobutyrate	305	2913	
8.252	Propenylguaethol	170	2922	
8.253	p-Propyl anisole	2026	2930	(49)
8.254	Propylene glycol dibenzoate	-	3419	
8.255	Propyl furylacrylate	2090	2945	
8.256	3-Propylidenephtalide	494	2952	
8.257	o-Propylphenol	-	3522	
8.258	Propyl thioacetate	-	3385	
8.259	Pseudocyclocitral	2133		
8.260	Pyrazine ethanethiol	(2285)	3230	[1]
8.261	Pyrazine methanethiol	-	3299	[1]
8.262	Pyrazinyl methyl sulfide	(2288)	3231	[1]
8.263	2-Pyridine methanethiol	2279	3232	
8.264	Resorcinol dimethyl ether	189	2385	
8.265	Tetrahydrofurfuryl butyrate	2081	3057	
8.266	Tetrahydrofurfuryl cinnamate	4224	3320	
8.267	Tetrahydrofurfuryl propionate	2096	3058	
8.268	Tetrahydrolinaloöl	77	3060	
8.269	Tetrahydro-pseudo-ionone	2053	3059	
8.270	Tetramethyl ethylcyclohexenone	168	3061	
8.271	Thiogeraniol	-	3472	
8.272	Thioguaiacol	2219	-	

8.273	2-(p-Tolyl)-propanal	131	3078
8.274	2,6,6-Trimethyl-l-cyclohexen-l-acetaldehyde	-	3474
8.275	3,5,5-Trimethylhexanal	-	3524
8.276	3,5,5-Trimethyl-l-hexanol	-	3324
8.277	9-Undecenal	123	3094
8.278	10-Undecenal	122	3095
8.279	* Vanillin acetate	225	3108
8.280	Vanillidene acetone	691	-
8.281			
8.282	* Allyl anthranilate	254	2020

[1] See para 110, ALINORM 78/12.

		Council of Europe No.	FEM No.	JECFA Reference
8.283	* Allyl heptanoate	369	2031	
8.284	* Allyl isovalerate	2098	2045	
8.285	Amylheptin carbonate	2172	-	
8.286	Benzyl ethyl carbinol	2137	-	
8.287	* Cinnamyl formate	352	2299	
8.288	* Cinnamyl propionate	414	2301	
8.289	* Cyclohexyl butyrate	2082	2351	
8.290	* Cyclohexyl formate	498	2353	
8.291	* Cyclohexyl hexanoate	528	-	
8.292	* Cyclohexyl isovalerate	459	2355	
8.293	* Cyclohexyl propionate	421	2354	
8.294	Dehydrodihydroionone	-	3447	
8.295	* Diethyl sebacate	623	2376	
8.296	Dihydroanethole	2026	2930	
8.297	* Dimethylbenzylcarbinyl acetate	2077	2392	
8.298	* Dimethylbenzylcarbinyl isobutyrate	2084	2394	
8.299	3,7-Dimethyl-2,6-octadienyl 2-ethylbutyrate	- *	3339	
8.300	4-Heptanol	555	-	
8.301	Isoamyleugenol	563	-	
8.302	Isoamyl heptin carbonate	2173	-	
8.303	* Isobornyl butyrate	564	-	
8.304	Isobutyl benzyl carbinol	2031	2208	
8.305	* Isobutyl N-methylanthranilate	649	-	
8.306	beta-Isomethyl ionone	650	-	
8.307	* Isopropyl cinnamate	325	2939	
8.308	3-Mercapto-2-butanol	-	3502	
8.309	2-Mercapto thiophene	478	-	
8.310	4-Methyl-5-(beta-acetoxy ethyl) thiazole-3- methyl-5-ethylphenol	580	-	
8.311	Methyl thiazol acetate	-	3205	
8.312	Phenylethyldimethylcarbinyl isobutyrate	2086	2736	
8.313	* Phenylpropyl propionate	419	2897	
8.314	l-Phenyl-3(5)-propylpyrazole	2277	-	
8.315	Piperonyl formate	2154	-	
8.316	* Sucroseoctaacetate	4219	FDA/GRA	

			S	
8.317	1,5,5,9-tetramethyl-13-oxatri-cyclo (8,3,0,$0^{4.9}$) tridecane	-	3471	
8.318	p-Tolylacetaldehyde	130	3071	
8.319	Trideca-4,7-dienal	684	-	
8.320	Licorice			

9.	FLAVOUR ENHANCERS	
9.1	Aspartate, monosodium	(29),(30)
9.2	Glutamate, magnesium	
9.3	Glutamate, L-Arginine	
9.4	Glutamate, L-Lysine	

		JECFA Reference
10.	MISCELLANEOUS	
10.1	Acetone peroxide	
10.2	Chlorine	
10.3	Nitrogen	
10.5	Thermally oxidized soyabean oil	
10.6	Glycerol esters of wood resin	(32), (38)
10.7	Polyvinyl pyrrolidone	
10.9	Saccharate of lime	
10.10	Aspartame	(35), (38), (41), (49)
10.11	Sucrose acetate isobutyrate	(35), (41)
10.12	Sorboyl palmitate	(32), (38)
10.13	Licorice	(41)
10.14	Xylitol	(41), (45)
10.15	Beeswax	[1]
10.16	Carnauba wax	[1]
10.17	Shellac	[1]
10.18	Condensed tannins	[1]
10.19	Wood flour	[1]
10.20	Modified polydextrose	
10.21	Hydrogenated glucose syrup	
10.22	Isomaltitol (a glucopyranoside of sorbitol)	

11.	PROCESSING AIDS	
11.1	Bentonite	(38)
11.2	Asbestos	
11.3	Diatomaceous earth	(41)
11.4	Perlite	

12.	PRESERVATIVES	
12.1	Parahydroxybenzoate, butyl	(30)

[1] See "para 110, ALINORM 78/12.

REFERENCES

(10) (Toxicological Monographs Resulting from the 9th and 10th Reports of the Joint FAO/WHO Expert Committee on Food Additives) Toxicological Evaluation of Some Antimicrobials, Antioxidants, Emulsifiers, Stabilizers. Flour-Treatment Agents. Acids and Bases; WHO/Food Add./67.29; FAO Nutrition Meetings Report Series No. 40 A, B, C.

(16) 13th Report of the Joint FAO/WHO Expert Committee on Food Additives; Specifications for the Identity and Purity of Food Additives and their Toxicological Evaluation; Some Food Colours. Emulsifiers. Stabilizers. Anti-Caking Agents and Certain Other Substances; WHO Techn. Rep. Series No. 445; FAO Nutrition Meetings Report Series No. 46.

(30) (Toxicological Monographs Resulting from the 17th Report of the Joint FAO/WHO. Expert Committee on Food Additives); FAO Nutrition Meetings Report Series No. 53 a; WHO Food Additives Series No. 5.

(32) 18th Report of the Joint FAO/WHO Expert Committee on Food Additives; FAO Nutrition Meetings Report Series No. 54; WHO Techn. Rep. Series No. 557.

(33) (Toxicological Monographs Resulting from the 18th Report of the Joint FAO/WHO Expert Committee on Food Additives); FAO Nutrition Meetings Report Series No. 54 A; WHO Food Additives Series No. 6.

(35) 19th Report of the Joint FAO/WHO Expert Committee on Food Additives; FAO Nutrition Meetings Report Series No. 55; WHO Techn. Rep. Series No. 576.

(38) 20th Report of the Joint FAO/WHO Expert Committee on Food Additives; FAO Food and Nutrition Series No. 1; WHO Techn. Rep. Series No. 559.

(41) 21st Report of the Joint FAO/WHO Expert Committee on Food Additives; WHO Techn. Rep. Series No. 617 (published only by WHO).

(45) 22nd Report of the Joint FAO/WHO Expert Committee on Food Additives (published by WHO).

(49) Twenty-third Report of the Joint FAO/WHO Expert Committee on Food Additives (to be published).

APPENDIX V

MAXIMUM LIMITS FOR CERTAIN SUBSTANCES HAVING BIOLOGICAL ACTIVITY PRESENT IN FOOD AS CONSUMED AS A RESULT OF THE USE OF NATURAL FLAVOURING MATERIALS

The level in food of the following substances should be restricted as follows

No.	Substance	Maximum level in mg/kg in the final product ready, for consumption: Food	Beverages	Exceptions
1.	Agaric acid	<20	<20	100 mg/kg in alcoholic beverages and in food containing mushrooms
2.	Aloin	0.1	0.1	50 mg/kg in alcoholic beverages
3.	beta-Azarone	0.1	0.1	1 mg/kg in alcoholic beverages
				1 mg/kg when seasoning used at low , levels in food
4.	Berberine	0.1	0.1	10 mg/kg in alcoholic beverages only
5.	Cocaine	cocaine-free by agreed test		
6.	Coumarin	<2 [1]	<2 [1]	10 mg/kg in special caramels
				in alcoholic beverages
7.	total Hydrocyanic acid	1 1	1	25 mg/kg in confectionery
			-	50 mg/kg in marzipan
				5 mg/kg in stone fruit juices
				1 mg/kg per % volume in alcoholic beverages
8.	Hypericine	0.1	0.1	1 mg/kg in pastilles (lozenges)
				2 mg/kg in alcoholic beverages
9.	Pulegone	25	100	250 mg/kg in peppermint or mint flavoured beverages

				350 mg/kg [2] in mint confectionery. Higher levels are to be found in special strong mint
10.	Quassine	5	5	10 mg/kg in pastilles (lozenges) 50 mg/kg in alcoholic beverages
11.	Quinine	0.1	85	300 mg/kg in alcoholic beverages 40 mg/kg in fruit curds
12.	Safrole	<1 [1]		5 mg/kg in alcoholic beverages above 25 % 15 mg/kg in food containing mace and nutmeg
13.	Santonin	0.1	0.1	1 mg/kg in alcoholic beverages above 25 %
14.	Thujones (alpha and beta)	0.5	0.5	10 mg/kg in alcoholic beverages above 25 % 5 mg/kg in alcoholic beverages containing less than 25 % 35 mg/kg in bitters 25 mg/kg in food containing sage 250 mg/kg in sage stuffings

[1] The toxicological limit should be lower but the methods of analysis generally available at present do not permit a lower level of detection

[2] Toxicological information needed.

APPENDIX VI

REVISED LIST OF PROCESSING AIDS IN THE LIGHT OF INFORMATION RECEIVED

The following abbreviations have been used in the preparation of this paper:

ADI = Acceptable Daily Intake
NS = ADI "not specified" by the JECFA
T = Temporary clearance by the JECFA
NE = Not toxicologically evaluated by the JECFA

REVISED LIST OF PROCESSING AIDS

	ADI (mg/kg) body-weight)	USES
A. Antifoam Agents		
Dimethyl polysiloxane	0-0.5	
Hydroxylated lecithin	NE	
Mineral oil	NS	In the production of
Polyglycerol esters of fatty acids	0-25	jam, yeast and sugar
Propylene glycol alginate	0-25	
Sorbitan monostearate	0-25	
B. Catalysts		
Nickel	NS	
Copper	NS	
Chromium	NE	
Manganese	NE	Fat hydrogenation
Molybdenum	NE	
Platinum	NE	
Palladium	NE	
Sodium metal	NE	
Sodium amide	NE	Inter- or
Sodium methylate (methoxide)	NE	transesterification of
Sodium ethylate (ethoxide)	NE	fats
Potassium ethylate (ethoxide)	NE	
Potassium metal	NE	
Sodium hydroxide	NE	Fat hydrolysis
Enzymes (to be specified)		Extraction aid
C. Clarifying Agents		
Vegetable carbon (activated)	NE	
Agar	NE	
Albumin	NE	
Bentonite	NE	Fruit juices
Casein	food	Wine tendered fats
Gelatin (edible)	NS	
Isinglass	IB	
Kaolin	NE	
Polyvinylpyrrolidine	NE	Vinegar and beverages
Polyvinylpolypyrrolidine	NE	
	0-0.6/(T)	Wime and rendered
Tannin (to be specified)	0-0.3 (T)	fats

D. Contact Freezing and Cooling Agents

Nitrogen	NE	
Carbon dioxide	NE	
Freon (to be specified)		
Glycerol	NS	
Brine (to be specified)		
Dichlorofluorome thane	0-1.5	

E. Desiccating Agents

Silicas (to be specified)

F. Enzyme Preparations (Including immobilized enzymes)

1. Animal-derived preparations:

Catalase (bovine liver)	NS	Cheesemaking
Lipase (bovine stomach)	NS	Cheesemaking
(bovine pancreas)	NS	Cheesemaking
Pepsin hog stomach)	NS	Fishmeal production
(avian)	NS	Clotting of milk
Rennet calf, kid or lamb stomach)	NS	Clotting of milk in
Rennet (bovine, goat or sheep stomach)	NS	cheese production
Trypsin (porcine or bovine pancreas)	NS	Baking, meat tenderizing

2. Plant-derived preparations:

Bromelain (Ananas spp.)	NS	Meat tenderizing Preparation precooked cereals
Ficin	NE	Meat tenderizing
Malt carbohydrase, amylase	NS	Bakery products
Papain (Carica papaya)	NS	Meat tenderizing

3. Microbial preparations:

Carbohydrase (lap. niger Tar.)	NS	Bakery products
Glucose oxidase (Asp. niger var.)	NS	
Lipase (Asp. oryzae var.)	NS	
Mixed carbohydrases and protease (Bac. subtilis)	NS	Bakery products
Microbial rennet		
(End. parasitica)	NS	Clotting of milk in cheese
(Muc. miehei)	NS	production
(Mue. pusillus)	NS	
Carbohydrase		
(Rhizopus oryzae)	NS	
(Saccharomyces spp.)	NS	
Invertase	NS	Production of invert sugar
Pectinase	NE	Fruit processing, clarification of juices

A comprehensive list of enzymes of microbial origin has been submitted by the Association of Microbial Food Enzyme Producers. This list is presented as an Annex to this list of processing aids.

G.	Extraction Solvents (Including processing solvents)		
	Acetone (Dimethyl ketone)	NS (T)	Oil, incl. essential oils
	1,2-Dichloroethane (Dichloroethane)	NE	Coffee, spices
	Ethanol	NS	Fats and oils
	Methanol	NS (T)	Fats and oils, spices
	Hexane	NS (T)	Oil, incl. essential oils cocoa butter
	Heptane	NS (T)	Edible oil
	Methylene chloride (Dichloromethane)	0-0.5 (T)	Oil, incl. essential oils, coffee
	Petroleum ether (Light petroleum)	NS	Fat and oil processing
	Propan-2-ol (Isopropyl alcohol)	NS (T)	Fats and oils
	1,1,2-Trichloroethylene	NE	Spices, essential oils, coffee
	Butane	NE	Fats and oils
	Pentane	NE	
	2-Nitropropane	NE	
	Water	(food)	
H.	Fat Crystal Modifiers		
	Sodium lauryl sulphate	NE	
	Oxystearin	0-25	
	Polyglycerol esters of fatty acids	0-25	
	Lecithin	NS	
I.	Filtration Aids (Including gel-filtration media)		
	Asbestos	NS	Fruit juices, vine, beverages
	Adsorbent clays (bleaching, natural or activated earths)	NE	Adsorption aids in fat processing
	Vegetable carbon (activated)	NS	
	Cellulose	NS	
	Diatomaceous earth	NS	
	Ion exchange resins (to be specified)		
J.	Flocculating Agents		
	Polyacrylic acid	NE	Sugar production
K.	Ion Exchange Resins, Membranes and Molecular Sieves		
	(see I. filtration aids)		
L.	Lubricants. Release and Anti-Stick Agents. Moulding Aids		
	Castor oil	0-0.7	Confectionary
	Polyglycerol polyricinoleate	0-7.5	Bread
	Polyglyoerol polylinoleate	NE	Bread
	Mineral oil/Paraffin oil	NS	Release agent/lubricant
	Fatty acids of tallow	NS	Release agent
	of cottonseed	NS	Release agent
	of soybean oil	NS	Release agent
	Acetylated monoglycerides	NS	Confectionary

M. Propellant and Packaging Gases

Oxygen	NE	Fruit juices
Nitrogen	NE	
Carbon dioxide	NS	
Nitrous oxide	NS	
Octafluorocyclobutane	NE	
Chloropentafluoroethane	NE	
Propane	NE	
Helium	NS	

N. Washing and Peeling Agents

Sodium hydroxide	NS	Fruit and vegetables

O. Yeast Nutrients

Ammonium chloride	NS	Yeast manufacture, wine making and bread making
Ammonium sulphate	NE	
Calcium carbonate Calcium phosphates (to be specified)	NS	
Ammonium phosphates (to be specified) Potassium chloride	NS	
Potassium carbonate	NS	
Potassium hydrogen carbonate	NS	

ANNEX TO APPENDIX VI

The Use of Enzymes in Food

Biological origin	Principle enzymatic activity
Bacteria	
Actinoplanes missouriensis	glucose isomerase
Arthrobacter sp	glucose isomerase
Bacillus cereus	protease
Bacillus circulans	endo-beta glucanase
Bacillus coagulans var	glucose isomerase
Bacillus licheniformis	alpha-amylase
	protease
Bacillus megaterium	beta-amylase
Bacillus subtilis (including strains known under the name B. mesenthericus and B. amyloliquiefaciens)	alpha-amylase
	beta-amylase
	endo-beta glucanase
	hemicellulase
	protease
Klebsiella aerogenes	dextranase
	pullulanase
Leuconostoc oenos	malic acid decarboxylase
Micrococcus lysodeicticus	catalase
Streptomyces albus	glucose isomerase
Streptonyces olivaceus	glucose isomerase
Streptomyces olivochromogenes	glucose isomerase
Streptomyces sp	xylanase
Fungi	
Aspergillus melleus	protease
Aspergillus niger var	alpha-amylase
	glucoamylase or amylo-glucosidase
	catalase
	cellulase
	endo-beta glucanase
	glucose oxidase
	hemicellulase
	lipase
	maltase or alpha-glucosidase
	pectinase
	protease
	cellobiase

	tannase
	xylanase
	beta-galactosidase
	alpha-galactosidase
	invertase
Aspergillus oryzae var	alpha-amylase
	glucoamylase or amyloglucosidase
	cellulase
	endo-beta glucanase
	hemicellulase
	lipase
	maltase or alpha-glucosidase
	pectinase
	protease
	beta-galactosidase
Candida lipolytica	lipase
Endothia parasitica	protease
Mortierella vinacea sp	melibiase
Mucor javanicus	lipase
Mucor miehei	lipase
	esterase
	protease
Mucor pusillus	protease
	lipase
Penicillium emersonii	endo-beta glucanase
Penicillium funiculosum	dextranase
Penicillium lilacicua	dextranase
Rhizopus arrhizus	lipase
	glucoamylase or amyloglucosidase
Rhisopus delemar	alpha-amylase
	glucoamylase or amyloglucosidase
	cellulase
	endo-beta glucanase
	hemicellulase
Rhizopus niveus	lipase
	glucoamylase or amyloglucosidase
Rhizopus oryzae	alpha-amylase
	glucoamylase or amyloglucosidase
	cellulase

	endo-beta glucanase
	hemicellulase
	maltase or alphaglucosidase
	pectinase
Sporotrichun dimorphosporum	cellulase
	hemicellulase
	xylanase
Thielavia terrestris	cellulase
Trichoderma reesei (trichoderma viridae)	glucoamylase or anylogluoosidase
	cellulase
	endo-beta glucanase
	hemicellulase
	maltase or alphaglucosidase
	pectinase
<u>Yeasts</u>	
Kluyveromyces fragilis	lactase
	unilinase
Kluyreromyces lactis	lactase
Saccharomyces carlsbergensis	invertase
	melibiase
Saccharomyces cerevisiae	invertase
	alcohol dehydrogenase

APPENDIX VII

REPORT OF WORKING GROUP ON SPECIFICATIONS (WG 4)

The assignment of WG 4 was to consider, at step 4 of the Procedure, in light of government comments, Specifications for the Identity and Purity of Food Additives contained in FAO Food and Nutrition Papers Nos. 4,5 and 7 (CX/FA 79/7 - Parts I, II and III), as prepared by the Joint FAO/WHO Expert Committee on Food Additives (JECFA).

Governments and interested international organizations were requested, in CL 1979/15, to submit their comments on the specifications not later than 29 June 1979. It was noted, however, that most governments and organizations did not receive the CL (and the documents for review) until only a few days or weeks before the stated deadline. Furthermore, the three FAO publications had been distributed only in English (not also in French and Spanish). For these reasons, few comments were received by 29 June 1979, and only a limited number of comments were received afterwards.

In view of this situation, WG 4 decided that it could not undertake review of the specifications during this session. It is recommended, therefore, that governments and international organizations be called upon again to submit comments on FAO Food and Nutrition Papers Nos. 4,5 and 7 (with certain exceptions as indicated later in this report), and that these comments be reviewed by WG 4 at the next meeting of this Committee.

WG 4 wishes to acknowledge receipt of written comments submitted in advance of the meeting by Denmark and Switzerland, and by the following organizations: European Secretariat of Manufacturers of Light Metal Packages (SEFEL); International Pectin Producers Association (IPPA); and Organization of Manufacturers of Cellulose Products for Foodstuffs in the EEC (OFCA). These comments will be retained for complete review at next year's meeting, in conjunction with additional comments that will have been received by then.

During the course of the meeting, WG 4 was able to review briefly FAO Food and Nutrition Paper No. 5, which contains no specifications per se but functions as a guide to the JECFA specifications, and provides a number of general test methods used in conjunction with the specifications. WG 4 wishes to emphasize the importance of this document and urges all reviewers and users of JECFA specifications to gain a thorough understanding of the information it contains. It was recognized, however, that Paper Ho. 5 does not contain all of the general methods elaborated by JECFA. The WG recommends, therefore, that this publication be up-dated to a complete set of general methods, or that a supplement to the general methods be published as soon as feasible. While observing that the analytical methods in Paper No. 5 are not the most modern available, it was also realized that there is a need for a compromise in the methods specified, as a result of . the different levels of development and capability In different countries. Nevertheless, JECFA should not hesitate to specify the most modern methods if Simpler procedures do not adequately fulfil the need in certain cases.

WG 4 has noted an irregularity concerning the status of FAO Nutrition Report Series Nos. 1B and 57, which were reviewed last year, and FAO Food and Nutrition Papers Nos. 4 and 7, which were scheduled for review at this meeting. Discrepancies arise from the fact that specifications for a number of substances appear in more than one publication. It has been determined, however, that the specifications in Reports nos. 1B and 57, and in Paper No. 7, are more current than (or are identical to) the respective specifications in Paper No. 4. As a result of a detailed analysis of the affected specifications, WG 4 is able to make the recommendations given below:

(1) Specifications for the following substances, which are contained in Reports Nos. 1B and 57 reviewed last year, should be deleted from Paper No. 4.

- Calcium hydrogen sulphite
- Mixed tocopherols concentrate
- Powdered cellulose
- Pimaricin
- Sorbic acid
- L(+) Tartaric acid
- Tertiary Butyl hydroquinone (TBNQ)

(2) Specifications for the following substances, which have been superceded by those in Paper No. 7, should also be deleted from Paper No. 4:

- Dioctyl sodium sulfosuccinate
- Stannous chloride

(3) All remaining substances in Paper No. 4 should be scheduled for review at next year's meeting as planned.

(4) Many of the specifications in Paper No. 7 will soon be superceded by publication of the specifications resulting from the 23rd JECFA meeting. These substances, which should be deleted from Paper No. 7 and considered, at the next meeting of this Committee, are:

- Ammonium chloride
- DL-Calcium malate
- Iron oxides (black)
- Iron oxides (red)
- Iron oxides (yellow)
- Magnesium chloride
- Magnesium gluconate
- Magnesium hydrogen carbonate
- Magnesium lactate
- Potassium chloride
- Potassium dihydrogen citrate
- Potassium gluconate
- DL-Potaesium malate solution
- Sodium dihydrogen citrate
- Sodium fumarate
- Sodium gluconate
- DL-Sodium malate
- Triammonium citrate

(5) All remaining specifications in Paper No. 7 should be scheduled for review at next year's meeting as planned.

Regarding the questions raised in CL 79/15 about the status of existing Codex specifications (or specifications prepared for adoption at Step 5 of the Procedure), which JECFA may have reviewed subsequent to their consideration by this Committee, WG 4 has made a thorough review and offers the recommendations given below.

(1) The following have not been affected by later JECFA specifications:

(a) Draft specifications proposed at Step 5 of the procedure which were approved at last year's meeting on the basis of review of Reports 1B and 57, and which are not scheduled for review by this Committee in the foreseeable future:

- Calcium hydrogen sulphite
- Mixed tocopherol concentrate
- Pimaricin
- Powdered cellulose
- Sorbic acid

- L(+) Tartaric acid
- Tertiary butyl hydroquinone (TBNQ)

(b) Existing Codex specifications based on ALINORM 76/41 and later published by JECFA in Paper No. 4 in essentially unchanged form, but which are scheduled for review at next year's meeting:

- Ascorbic acid
- Ascorbyl palmitate
- Ascorbyl stéarate
- Citric acid
- Mlauryl thiodipropionate
- EDTA, Calcium disodium
- EDTA, disodium
- Erythorbic acid
- Sodium ascorbate
- Sodium erythorbate
- Thiodipropionic acid

(2) The following existing Codex specifications have been reviewed by JECFA after their adoption by the Codex and have undergone various revisions) these specifications (which appear in Papers Nos. 4 and 7) are also scheduled for review at next year's meeting!

- Butylated hydroxyanisole
- Butylated hydroxytolune
- Cupric sulfate
- Droityl sodum sulfosuccinate
- Dodecyl gallate
- Hetamethylenetetramine
- Isoamyl galate
- Isopropyl citrate mixture ,
- Octyl gallate
- Propyl gallate
- Stannous chloride

(3) Although this Committee approved the specifications for alpha-Tocopherol at the 10th Session, based on review of ALINORM 76/41, it withheld approval at the 12th Session when the specifications of Report No. 37 were reviewed. In view of comments submitted to WG 4 at this session, WG 4 recommends that alpha-Tocopherol be considered again at the next meeting as part of the review of Paper No. 4*

<u>Other Comments and Recommendations of WO 4</u>

(1) The Codex Secretariat should be urged to allow sufficient time for review of specifications by governments and international organizations.

(2) The JECFA Secretariat should be urged to distribute specifications resulting from its meetings as early as possible, and In the appropriate languages.

(3) The procedure regarding endorsement of food additive specifications, as amended at the last meeting of this Committee (see ALINORM 79/12, para. 7), was re-examined. It was noted that any revision in JECFA specifications which

were considered desirable by this Committee would be called to JECFA's attention for due consideration, and that the results of JECFA's deliberation would, in time, be reported to this Committee. It was understood that this amendment was adopted for practical reasons (primarily to reduce publication costs) and to avoid a conflict in specifications. WG 4 is concerned, however, that this procedure results in a situation whereby only those revisions in specifications that are subsequently approved by JECFA are allowed to advance within the Codex system. WG 4 urges that this Committee request JÉCFA to undertake review of such revisions at the earliest possible time (preferably at the JECFA meeting following the respective meeting of this Committee), and that JECFA report its recommendations back to this Committee without delay, having given full consideration to the constraints which this procedure imposes on the progress of the Codex.

(4) WG 4 noted that, in accordance with procedures elaborated at the 12th Session of this Committee, the only way of bringing to the attention of governments which specifications had been adopted by the Commission was by means of publications such as the "Guide to the Safe Use of Food Additives".(the latest of which is the Second Series published as CAC/FAL 5-1979). Although it was premature to draw conclusions about the efficacy of this procedure, WG 4 suggested that it undertake an annual review of the status of adopted specifications, taking into account any subsequent revisions in the respective JECFA specifications, and that the results of this review be included as an annex to the report of VG 4. It was further suggested, as a means of assuring wider distribution and availability of such information, that the annual list be published as a separate booklet or leaflet for distribution through the usual channels by the Secretariat.

(5) Regarding specifications that are designated by JECFA as "tentative", WG 4 decided that, in the future, it should not review those specifications that have been assigned tentative status because of the lack of data on identity and purity criteria, or of analytical methodology. All other tentative specifications would be subject to consideration for review under the usual procedures of WG 4. For the older specifications, however, assistance will be required from JECFA in determining the basis for the tentative status, as this information is usually not provided in the JECFA reports.

(6) WG 4 suggests that the Codex and FAO Secretariats coordinate the numbers used for reference to JECFA publications.

APPENDIX VIII

CODEX PRIORITY LIST OF FOOD ADDITIVES [1]

[1] see paras 162-170 and 150 of this Re port.

Additives included in Codex commodity standards adopted by the Commission and sent to governments for acceptance

Magnesium glutamate
Calcium ascorbate

Acide, Bases and Salta

Acetate, ammonium
Acetate, magnesium
Adipate, calcium
Adipate, magnesium

Fumarate, calcium
Fumarate, potassium

1,4-Heptanolactone, calcium and sodium salts

dl-malate, sodium hydrogen

dihydrogen orthophosphate, ammonium (ammonium phosphate, monobasic)

hydrogen orthophosphate, diammonium (ammonium phosphate, dibasic)

hydrogen orthophosphate, magnesium (magnesium phosphate, dibasic)

diphosphate, dicalcium (calcium pyrophosphate)
diphosphate, tetrapotassium (potassium pyrophosphate)

Phosphate, Done
Sodium aluminium phosphate, acidic
Sodium aluminium phosphate, basic

Triphosphate, pentapotassium
Polyphosphate, ammonium
Polyphosphate, calcium
Polyphosphate, potassium

Succinic acid
Succinate, ammonium
succinate, calcium
Succinate, magnesium
Succinate, potassium
Sulphate, aluminium
Sulphate, aluminium-ammonium
Sulphate, aluminium-potassium
Sulphate, ammonium, potassium and sodium
Sulphate, hydrogen, potassium and sodium
Sulphuric acid

L(+)Tartrate, ammonium
L(+)Tartrate, calcium
L(+)Tartrate, magnesium

Sesquicarbonate, sodium (Na2., CO3. NaHCO3. 2H2O ,)

Buyme Preparations

Microbial rennet (Bacillus cereus)
Microbial rennet (Irpex lacteus)
Fie in
Microbial catalase (Micrococcus lysodeiktieus)
Microbial glucose oxidase (Pénicillium amágasakiense)
Microbial glucose isomerase (Actinoplanes missouriensis)
Microbial glucose isomerase (Arthrobacter gleoiformis)
Microbial glucose isomerase (Streptomyces olivochromocjenes)
Microbial glucose isomerase (Streptomyces rujiginosus)
Microbial glucose isomerase (Streptomyces albus)

Colour

Riboflavine 5 sodium phosphate

MISCELLANEOUS

Modified polydextrose
Hydrogenated glucose syrup
Isomaltitol (a glucopyranoside of sorbitol)
B-asarns [1]
Coumaria [1]
Hydrocyanic acid [1]
Safrole [1]
Thiyone [1]

[1] See para 150

APPENDIX IX

RECOMMANDATIONS CONCERNING CLASS NAMES OF FOOD ADDITIVES [1]

Anti-caking agents

Anti-oxidants

Bleaching Agents

Carrier Solventa

Colours

Emulaifiers

Flavours

Flavour Enhanoers

Enzyme Preparations

Preservatives

Stabilizers

Thickeners

Artificial Sweeteners (or non-nutritive sweetener)

Anti-foaming Agents

Neutralizes

Acidifiera

Not required for Hating on label in List of Ingredients

Processing Aids	-	Clarifying Agents Filtration Aids Extraction Solvents Gases etc.	To be consistent with the classification of processing aids

[1] Intended as class names for food additives for the purpose of label declaration (see para 48-54)

APPENDIX X

/DRAFT STANDARD/ FOR FOOD GRADE SALT [1]

[1] See paras 171 - 177 of this report

1. Description

Food grade salt is a product consisting predominantly of sodium chloride. It is obtained from the sea, from underground rock salt deposits or from natural brine. Salt from other origins - and notably the salt Which is a by-product of chemical industries - is excluded.

2. composition

2.1 The content of NaCl shall not be less than 97.0% on a dry matter basis, additives excluded.

2.2 The remainder comprises natural" secondary products, which are present in varying amounts depending on the origin and the method of production of the salt, arid Which are composed mainly of calcium,-potassium, magnesium and sodium sulphates, carbonates, bromides and chlorides. Natural contaminants may also be present in amounts varying with the origin and the method of production of the salt.

3. contaminants

3.1 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, expressed on a dry matter oasis, shall not be exceeded*]*. [2]

[2] The maximum levels are provisional pending information on actual levels and the establishment of appropriate methods of analysis

3.2.1	Arsenic	not more than *[*1*]* mg/kg expressed as A*
3.2.2	copper	not more than *[*2*]* mg/kg expressed as Cu
3.2.3	Lead	not more than *[*2*]* mg/kg, expressed as Pb
3.2.4	cadmium	not more than *[*0.5*]* mg/kg, expressed as Cd
3.2.5	Mercury	not more than *[*0.1*]* mg/kg, expressed as Hg

4. Transport. Packaging and storage

In order to ensure that proper standards of food hygiene are maintained until the product reaches the consumer, the transportation, packaging and storage of food grade salt shall be such as to avoid any risk of contamination.

5. Food Additives

5.1 All additives used shall be of food grade quality. Codex specifications of identity and purity apply whenever available. *[*additives appearing on this list indicated by means of an asterisk have not yet been evaluated by the Joint FAO/WHO Expert committee on Food Additives*]*.

5.2	Anticaking agents		Maximum Level
5.2.1	Amorphous silicon dioxide	(SiO2)	20 g/kg, singly or in combination
5.2.2	Carbonate, calcium	($CaCO_3$)	
5.2.3	Carbonate, magnesium	($MgCO_3$)	
5.2.4	Magnesium oxide	(MgO. xH_2O)	
5.2.5	Phosphate, tricalcium	($Ca_3(PO_4)2$)	
5.2.6	Silicate, calcium	($CaSiO_3$)	

5.2.7	Silicate, magnesium	$MgSiO_3$)	
5.2.8	Silicate, sodium alumino		
5.2.9	Silicate, potassium alumino *		
5.2.10	Stearate, aluminium	(Al ($C_{17}H_{35}COO$)3)	
5.2.11	Stearate, calcium	(Ca ($C_{17}H_{35}COO$)2)	
5.2.12	Stearate, magnesium	(Mg ($C_{17}H_{35}COO$)2)	

5.3 Crystallization Aids Maximum Level

			Maximum Level
5.3	Crystallization Aids		
5.3.1	Ferrocyanide, sodium	(Na_4Fe $(CN)_6.10H_2O$)	
5.3.2	Ferrocyanide, potassium	(K_4Fe $(CN_6.3H_2O$)	20 mg/kg, singly or in
5.5.3	Ferrocyanide, calcium	(Ca_2Fe (CN)6.$12H_2O$)	combination, expressed
5.3.4	Ferrocyanide, manganese	(Mn_3[fe (CN_6]2))	as Fe $(CN)_6$
5.3.5	Ferrocyanide, magnesium	(Mg_2Ft $(CH)_6$. H_2O)	
5.3.6	Manganocyanide, ferrous	(Fe_3[Mn (CH_6] 2)	

6. Other Requirements

Food grade salt shall be used if salt is used as a carrier of food additives and nutrients for technological or public health reasons. Examples of such preparations are mixtures of salt with nitrate and/or nitrite (curing salt) and salt mixed with small amounts of fluoride or iodide.

7. Labelling

To be elaborated, if it is decided that "standard" rather than "specifications" will be drawn up.

8. Methods of Analysis and Sampling

To be elaborated.