

codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

JOINT OFFICE: Via delle Terme di Caracalla 00100 ROME Tel.: 57971 Telex: 625852-625853 FAO I Cables: Foodagri Rome Facsimile: (6) 57973152-5782610

ALINORM 93/18

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Twentieth Session

Geneva, 28 June - 7 July 1993

REPORT OF THE TWENTIETH SESSION OF THE
CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS
Bergen, Norway, 1-5 June 1992

Note: This report incorporates Codex Circular Letter CL 1992/17-FFP.

W/Z9245

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CX 5/35.2

CL 1992/17-FFP
July 1992

TO: - Codex Contact Points
- Participants at the 20th Session of the Codex Committee on Fish and Fishery Products
- Interested International Organizations

FROM: Chief, Joint FAO/WHO Food Standards Programme,
FAO, Via delle Terme di Caracalla, 00100 Rome, Italy

SUBJECT: Report of the Twentieth Session of the Codex Committee on Fish and Fishery Products (CCFFP) (ALINORM 93/18)

PART A: MATTERS OF INTEREST TO THE COMMISSION ARISING FROM THE REPORT OF THE TWENTIETH SESSION OF THE CCFFP

(1) Proposed Draft Code of Practice for Sensory Evaluation of Fish and Shellfish

It was recommended that a comprehensive Code of Practice for Sensory Evaluation of Fish and Shellfish should be elaborated and that specific action should be undertaken by the Secretariat to arrange for the preparation of a first draft (paras. 19-24).

(2) Inclusion of Fish Fillets in the Code of Practice for Fresh Fish (CAC/RCP 9-1976)

It was recommended to bring to the attention of the Executive Committee the need to amend the Code of Practice for Fresh Fish for inclusion in an appropriate section on fresh fillets (paras. 25-27).

(3) Matters for Adoption by the Commission

The following matters will be brought to the attention of the 20th Session of the Codex Alimentarius Commission for adoption.

1. Draft Codex Standard for Dried Shark Fins at Step 8:
paras. 47-55 and Appendix III, ALINORM 93/18

Governments wishing to propose amendments or to comment on the above draft worldwide standards should do so in writing in conformity with the Guide to Consideration of Codex Standards at Step 8 (see Codex Alimentarius Procedural Manual, Seventh Edition) to the Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy, not later than 31 May 1993.

Draft Standards at Step 5:

2. Proposed Draft Standard for Quick Frozen Squid at Step 5; paras. 56-65 and Appendix IV, ALINORM 93/18;
3. Revised Codex Standard for Canned Shrimps or Prawns (Codex Stan 37-1981, Rev.) at Step 5; paras. 71-83 and Appendix V, ALINORM 93/18;
4. Revised Codex Standard for Canned Salmon (Codex Stan 3-1981, Rev. (1985)) at Step 5; paras. 84-89 and Appendix VI, ALINORM 93/18;

5. Revised Codex Standard for Canned Crab Meat (Codex Stan 90-1981 Rev.) at Step 5; paras. 90-91 and Appendix VII, ALINORM 93/18;
6. Revised Codex Standard for Canned Sardines and Sardine-Type Products (Codex Stan 94-1981, Rev.) at Step 5; paras. 92-95 and Appendix VIII, ALINORM 93/18;
7. Revised Codex Standard for Canned Tuna and Bonito (Codex Stan 70-1981, Rev.) at Step 5; paras. 96-97 and Appendix IX, ALINORM 93/18;
8. Revised Codex Standard for Canned Finfish (Codex Stan 119-1981, Rev.) at Step 5; paras. 98-99 and Appendix X, ALINORM 93/18;
9. Revised Codex Standard for Quick Frozen Shrimps or Prawns at Step 5; paras. 100-109 and Appendix XI, ALINORM 93/18;
10. Revised Codex Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish, Minced Fish Flesh and Mixtures of Minced Fish Flesh at Step 5; paras. 100-109 and Appendix XII, ALINORM 93/18;
11. Revised Codex Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets Breaded or in Batter at Step 5; paras. 100-109 and Appendix XIII, ALINORM 93/18;
12. Revised Standard for Quick Frozen Lobsters at Step 5; paras. 100-109 and Appendix XIV, ALINORM 93/18;
13. Revised Standard for Quick Frozen Uneviscerated and Eviscerated Finfish at Step 5; paras. 100-109 and Appendix XV, ALINORM 93/18.
14. Proposed Amendment to the Canned Crab Standard (EDTA) at Step 5; The Committee decided to advance the proposed amendment to Step 5 for adoption by the Commission and to request further comments for discussion at the next session of the CCFFP.

Governments wishing to propose amendments or to submit comments regarding the implications which the proposed draft worldwide Codex standards may have for their economic interests should do so in writing in conformity with the Procedure for the Elaboration of Worldwide Codex Standards (at Steps 5 and/or 8) (see Codex Alimentarius Procedural Manual, Seventh Edition) to the Chief, Joint FAO/WHO Food Standards Programme, FAO, Via delle Terme di Caracalla, 00100 Rome, Italy, not later than 31 May 1993.

(4) Code of Practice for Surimi (para. 129, ALINORM 93/18)

The Committee agreed to recommend to the Commission that a Code of Practice for Surimi should be elaborated. The Delegation of Japan was requested to prepare a draft with the assistance of the United States for discussion at the next session of the CCFFP.

PART B: INFORMATION REQUESTED FROM GOVERNMENTS

(1) Request for Comments at Step 6 of the Revised Draft Standard for Quick Frozen Fish Fillets (para. 38 and Appendix II, ALINORM 93/18)

The Committee decided to return the draft standard to Step 6 of the Procedure in view of the several changes made at its 20th Session.

- (2) Request for Comments at Step 3 of the Codex Standard for Salted Fish of the Gadidae Fish Family (para. 110, ALINORM 93/18)

The Committee noted that in revising this Standard, the Drafting Group in Ottawa had recommended that attention should be turned to amending the Scope section to include all fish products both dried and undried. The revised draft standard was circulated as CL 1991/20-FFP. The Committee agreed to return this Standard to Step 3 for further government comments.

- (3) Request for Comments at Step 3 of the Code of Hygienic Practice for the Products of Aquaculture (para. 113, ALINORM 93/18 and CL 1991/28-FFP)

The Committee decided to retain the draft Code at Step 3 and to request further written comments from member countries and interested international organizations. Based on these comments, the FAO Fisheries Department was requested to prepare a revision version well in advance of the 21st Session of the CCFFP.

- (4) Request for Comments at Step 3 of the Code of Practice on the Utilization of Shark (para. 121, ALINORM 93/18)

The Committee agreed that written comments should be requested for discussion at the next session of the CCFFP (Document FAO Fisheries Circular N° 844), FIIU/C844.

- (5) Proposed Methods for the Determination of Drained Weight of Shrimps and Prawns in Gelled Media and Thawing Media for Quick Frozen Fish Blocks (paras. 143-152 and Appendix XVI, ALINORM 93/18)

The Committee noted that it was premature to accept the proposed methods, taking into consideration that there had not been sufficient time to test the method and therefore decided that the proposed methods should be appended to the report (Appendix XVI) requesting government comments for consideration at the next session of the CCFFP.

Comments and information requested in Points (1), (2) and (5) of this Circular Letter should be sent to the Chairman of the Codex Committee on Fish and Fishery Products, Mr. J. Race, Norwegian Food Control Authority, P.O. Box 8187, Dep., 0034 Oslo 1, Norway, with a copy to this office, by not later than the end of April 1993.

Comments and information requested in Points (3) and (4) of Part B of this Circular Letter should be sent to Mr. D. James, Senior Fishery Industry Officer (Utilization), Fishery Industries Division, FAO, 00100 Rome, Italy, with a copy to this office by not later than the end of April 1993.

SUMMARY AND CONCLUSIONS

The Committee reached the following conclusions during its deliberations:

MATTERS FOR CONSIDERATION BY THE COMMISSION:

- Agreed that a comprehensive Code of Practice for Sensory Evaluation of Fish and Shellfish should be elaborated (para. 24);
- Recommended that fresh fillets should not be included in the draft standard for Quick Frozen Fish Fillets and agreed to bring a proposal concerning an appropriate amendment to the Codex Code of Practice for Fresh Fish (CAC/RCP 9-1976) to the attention of the Executive Committee of the Codex Alimentarius Commission (paras. 25-27);
- Decided to advance the draft standard for Dried Shark Fins to Step 8 for adoption by the Commission as a Codex standard (para. 55);
- Agreed to advance the proposed draft Codex Standard for Quick Frozen Squid to Step 5 of the Codex Procedure for adoption by the Commission (para. 65);
- Revised several Codex canned and frozen fish standards and agreed to advance the following draft standards to Step 5 for adoption by the Commission:
 - . Canned Shrimps or Prawns (Codex Stan 37-1981, Rev.)
 - . Canned Salmon (Codex Stan 3-1981, Rev. (1985))
 - . Canned Crabmeat (Codex Stan 90-1981, Rev.)
 - . Canned Sardines and Sardine-type Products (Codex Stan 94-1981, Rev.)
 - . Canned Tuna and Bonito (Codex Stan 70-1981 Rev.)
 - . Canned Finfish (Codex Stan 119-1982 Rev.)
 - . Quick Frozen Squid
 - . Quick Frozen Shrimps or Prawns
 - . Quick Frozen Blocks of Fish Fillets, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh
 - . Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets Breaded or in Batter
 - . Quick Frozen Lobsters
 - . Quick Frozen Uneviscerated and Eviscerated FinFish (paras. 66-107)
- Agreed to recommend to the Commission that a Code of Practice for Surimi should be elaborated (paras. 126-129);
- Decided to advance the proposed amendment concerning the use of EDTA for Canned Crab Meat for adoption by the Commission (paras. 139-142);

MATTERS OF INTEREST TO THE COMMISSION:

- Discussed the draft Codex Standard for Quick Frozen Fish Fillets and, in view of several changes introduced, considered the need to give an opportunity to member countries, not present at the meeting to comment on the revised draft standard and decided to return it to Step 6 (para. 39);

SUMMARY AND CONCLUSIONS (Cont'd.)

- Agreed that the provisions related to commercial quality, which had been removed from all the standards, should be collected and introduced into the relevant Code of Practice. The Delegation of Canada volunteered to take the leading role with assistance from a group of other countries (para. 44);
- Decided to return the Codex Standard for Salted Fish of the Gadidae Fish Family to Step 3 for further government comments with particular emphasis on the amendment of the scope section to include all fish products both dried and undried and on whether this is a relevant standard (para. 110);
- Decided to retain the draft Code of Hygienic Practice for the Products of Aquaculture at Step 3 and to request further written comments from member countries and international organizations (para. 113);
- Agreed that the draft Code of Hygienic Practice for Fish and Fishery Products in Controlled and Modified Atmosphere Packaging should be redrafted in the format of the Codex codes of practice with the incorporation of comments from several member countries and should be circulated at Step 3 and discussed at the next session of the CCFFP (paras. 114-118);
- Noted that several sections of the Code of Practice on the Utilization of Shark should be simplified by reference to other Codex codes of practice and agreed that written comments should be requested by means of a CL at Step 3, for discussion at the next session of the CCFFP (paras. 119-121);
- In view of the fact that no trade barriers had been reported in connection with salted herring, considered that the elaboration of such a standard should not be a priority for the time being (paras. 122-125);
- Agreed to adopt microbiological specifications for quick frozen cooked crab meat and decided to bring this matter to the attention of the Codex Committee on Food Hygiene (paras. 130-138);
- Decided to circulate several proposed methods of analysis for fish and fishery products for consideration at the next session of the CCFFP (paras. 143-152).
- Noted that the definition of predatory species was not always relevant with reference to the levels of mercury in fish and requested the Secretariat to prepare a background paper on the levels and factors influencing mercury in fish (paras. 153-156).

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OPENING THE SESSION (Agenda Item 1)

1. The Codex Committee on Fish and Fishery Products held its Twentieth Session in Bergen, Norway from 1-5 June 1992, through the courtesy of the Government of Norway. Mr. John Race of Norway acted as Chairman. The Session was attended by 118 participants, representing 33 member countries and two international organizations. A list of participants including the FAO/WHO Secretariat, is contained in Appendix I.
2. The Session was officially opened by Mr. Viggo Jan Olsen, Director General of Fisheries who welcomed the participants on behalf of the Norwegian Minister of Fisheries, Ms. Oddrunn Pettersen, and pointed out the rapid changes undertaken by Codex on the elaboration and review of international standards, to answer the needs of international trade, and at the same time ensure public health, safety, and consumer protection. The FAO/WHO Conference on Food Standards, Chemicals in Food and Food Trade in March 1991 was an important milestone, and laid down the direction of future work. Mr. Olsen also noted that Norway had always been a staunch supporter of the goals of the Codex Alimentarius. The active participation of member countries of the Codex Committee on Fish and Fishery Products (CCFFP) in reviewing the Codex Standards for fish had set an example for the other Committees to follow.
3. The Director General of Fisheries ended by declaring the Twentieth Session of the Codex Committee on Fish and Fishery Products open.

ADOPTION OF THE AGENDA (Agenda Item 2)

4. The Committee had before it document CX/FFP 92/1, the Provisional Agenda for the Session. The Committee agreed with the proposal of the Chairman to discuss Agenda Item 15 concerning "The review of inspection procedures for fish and shellfish" before Agenda Item 5, in view of the implication that the inspection procedures would have on the review of Codex Standards for Fish and Fishery Products.
5. The Committee decided to request an *Ad Hoc* Drafting Group, led by the Delegation of Canada, to review the Codex fish standards, taking into account the comments received from governments and the general considerations arising from the discussion of Agenda Item 15.

MATTERS ARISING FROM THE 19TH SESSION OF THE CODEX ALIMENTARIUS COMMISSION, THE EXECUTIVE COMMITTEE AND OTHER CODEX COMMITTEES (Agenda Item 3)

6. The Committee had before it document CX/FFP 92/2, which highlighted those matters of interest arising from the 19th Session of the Codex Alimentarius Commission and other Codex Committees.
7. The Committee noted that the Codex Coordinating Committee for Asia had recommended that standards for "dried anchovies" and "fish crackers" should be elaborated by countries of the region. With the understanding that the Executive Committee would approve this procedure, the Delegation of Switzerland, supported by the Delegations of Denmark and Thailand proposed that, the proposed draft standards, elaborated by the Asian region, should be transmitted to the CCFFP for consideration. The Committee agreed with this proposal.

REPORT ON ACTIVITIES OF FAO, WHO AND OTHER INTERNATIONAL ORGANIZATIONS (Agenda Item 4)

8. The Committee had before it document CX/FFP 92/3 containing a report on activities of FAO and WHO of interest to the CCFFP.

Joint FAO/WHO Activities

9. The Representative of WHO reported on the Joint FAO/WHO Consultation on Assessment of Biotechnology in Food Production and Processing as related to food safety and also on a Joint IAEA/FAO/WHO Seminar on Harmonization of Food Irradiation for countries of Asia and the Pacific.

10. In regard to the Food Contamination Monitoring Programme, which was also mentioned in Agenda Item 3 in connection with matters arising from Codex Committee on Pesticide Residues, the Delegation of Denmark expressed concern about using the data collected through this programme for establishing MRLs, considering that the data were not always of the same quality and were obtained by different methods of measurement.

FAO Activities

11. The Representative of the FAO Fisheries Department referred to the strong commitment of the Department to training in quality control and fish inspection. During the last three years, 40 regional and national workshops and courses had trained more than 800 people, but there was still a strong demand from developing countries.

12. Additional funding was required as the present programme was coming to an end. Developing countries were encouraged to make their requirements for training known to agencies able to provide funds.

13. An additional activity of the Department had been the encouragement of research and the collection of information on the occurrence of salmonella in farmed shrimp. A paper was now available indicating that salmonella was widespread in the environment in which shrimp were farmed, and that complete removal of the organism could not be guaranteed even if good manufacturing practices were used.

14. FAO was helping to stem the spread of cholera in Latin America and the Caribbean through projects aimed at controlling food quality including safety of street foods. Projects involved Peru and neighbouring countries, as well as planned sub-regional projects for Central America, Panama and the Caribbean countries.

15. The Delegation of Gabon pointed out that in common with many developing countries, Gabon had major food safety problems and because of lack of training and equipment, faced difficulties with implementing effective food quality and food safety standards. The Delegation requested information on sources of financial and technical assistance.

16. In reply it was pointed out that FAO and WHO as specialized agencies of the UN were able to supply information and technical assistance, but that multi-lateral and bilateral donor agencies should be approached for funding. The WHO representative stated that food safety was a health issue that WHO was concerned about. She suggested that assistance could be requested from WHO through the Ministry of Health.

WHO Activities

17. The WHO representative informed the Committee of a recent consultation on the subject of food irradiation. The consultation, which was convened at the request of the Australian government, reviewed the safety and nutritional aspects of food irradiation, taking into consideration all available published and unpublished data. Mention was made of the Commission on Health and Environment and the four technical panels: Food and Agriculture, Energy, Industry, and Urbanization.

18. Reference was made to two documents prepared by the Global Task Force on Cholera: Guidance on Formulation of National Policy on Cholera Control, and the revised edition of Guidelines for Cholera Control. The Committee was also informed of the Resolution of the 44th World Health Assembly (1991) calling upon the international community not to apply import restrictions which could not be justified on public health grounds. In this regard, the Observer of the EEC informed the Committee of the EEC measures to control the importation of food from Latin America, following the epidemic of cholera. It was explained that an EEC delegation had visited Peru and some of the other countries affected by the cholera epidemic to find out the conditions under which food was handled and controlled. As a result of this mission, the EEC had not applied restrictions on the import of food which was processed under good hygienic conditions and which was certified by an official food quality control laboratory.

REVIEW OF INSPECTION PROCEDURES (SENSORIC EVALUATION) FOR FISH AND SHELLFISH
(Agenda Item 15)

19. The Committee had before it a report on Procedures for the Sensory Evaluation of Fish and Shellfish prepared by a Consultant, Mr. Peter Howgate, (Document CX/FFP 92/4). This item was discussed before considering the review of the standards. Mr. Howgate introduced the report and briefly summarized the main conclusions and recommendations. He reported that sensory procedures could be applied to the inspection of fishery products and that sensory terminology could be adequately defined for this purpose. He also reported that inspectors could be trained to give adequate uniform judgements of quality. The consultant recommended that the Committee should decide in principle on the inclusion of certain factors in the standards and their levels.

20. The Committee discussed the level of spoilage that should be permitted in the standards. The consultant pointed out that the level of freshness defined in the current standards was appropriate for commercial purposes and was higher than that defined by most mandatory standards and applied by inspection agencies in the evaluation of imported fishery products. The Delegation of Canada pointed out that this point had been discussed at the previous meeting of the Committee and it had been agreed that the Codex Standards should be aligned to such mandatory standards. Other delegations supported this view and it was confirmed that the sensory specifications in the standards should be set at a level that ensured food safety and consumer protection.

21. The Committee discussed the inclusion of criteria for texture in the standards. Defects in texture did not pose a hazard to health and did not need to be included in a standard that concentrated on food safety and consumer protection. Many delegations considered that defects of texture were factors that affected the marketing of the product and should not be included in revised standards. The Delegation of Canada said that the criterion to apply was whether or not a Government would take action to reject products which had serious enough defects in texture. After further discussion, the Committee agreed that defects in texture should be included in standards where it was considered that the defects were severe enough to warrant action by regulatory authorities or indicated non-compliance with Codex Codes of Hygienic Practice.

22. There was a discussion along similar lines as to whether or not appearance defects were related to commercial considerations or were of significance for regulatory authorities. It was agreed that deep dehydration would warrant action by regulatory authorities and should be included in Codex standards.

23. The Delegation of the U.K. asked that sensory procedures should be elaborated in a document to accompany standards. It was pointed out that reference to a Code of Practice for Sensory Evaluation was made in the draft revised standards as presented in document CX/FFP 92/7.

24. The Committee agreed that a comprehensive Code of Practice for Sensory Evaluation of Fish and Shellfish should be elaborated and requested the Secretariat to arrange for the preparation of this document.

INCLUSION OF FRESH FILLETS IN THE CODEX STANDARD FOR QUICK FROZEN FISH FILLETS
(Agenda Item 5 (b))

25. The Committee agreed to deal with this issue first, and then concentrate on the draft standard itself under Agenda Item 5 (a). In introducing the document for this Agenda Item, CX/FFP 92/4-Add. 1, the Delegation of the United Kingdom stressed the significant increase in international trade in fresh fish and fish fillets. The Committee's attention was drawn to substantial difficulties arising from the comparison of process definition, organoleptic properties and particularly to tolerances for parasites in the two products.

26. The Committee noted that a fresh product with a short shelf life would be difficult to accommodate in the draft standard for quick frozen fillets and also noted that the usual Codex procedure for dealing with such products was through development of appropriate codes of practice. The Committee agreed that fresh fillets should not be included in the draft standard for quick frozen fish fillets and agreed to handle the fresh fish through development of an appropriate amendment to the Codex Code of Practice for Fresh Fish (CAC/RCP 9-1976). The Committee welcomed the readiness of the delegations of Australia, France, Germany, Ireland and Norway under the chairmanship of the United Kingdom to draft such an amendment.

27. The Committee decided to bring this proposal to the attention of the Executive Committee of the Codex Alimentarius Commission at its 39th Session, 30 June - 3 July 1992.

CONSIDERATION OF THE DRAFT CODEX STANDARD FOR QUICK FROZEN FISH FILLETS AT STEP 7
(Agenda Item 5 (a))

28. For this Agenda Item the Committee had before it the General Draft Standard as presented in Appendix II to ALINORM 91/18 and CX/FFP 92/4 which contained the comments of Thailand and Cote d'Ivoire on that draft.

2.2 Process Definition

29. The Committee agreed to the following changes: the term "or colder" should be inserted after -18°C (0°F) in the last sentence of the first paragraph. The following should be added to the first paragraph:

"The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution."

The Delegation of Norway, supported by the observer of the EEC, proposed that the words "under such conditions" should be replaced by "deep frozen".

30. The Committee noted that this sentence existed in the previous draft and that there was no record justifying its removal.

3.3.1 Appearance

31. The Committee agreed to replace "material" in the second sentence of the Section with "matter". This was considered to be consistent with Section 8.2 Foreign Matter, since both sections were related to quality characteristics.

5.1 Hygiene and Handling

32. The Committee agreed to remove the square brackets from Section 5.1, to delete "not derived from fish" and maintain the more general term "material" as

related to health and to distinguish it from "matter" as used in 3.3.1 and 8.2 (see para 31.)

33. The observer of EEC proposed that Section 5.1 should provide for the exclusion of products containing specific biotoxins belonging to the families: *Tetraodontidae*, *Molidae*, *Diodontidae*, *Canthigasteridae*, which were listed in the recent EEC Directive on Fish Hygiene. The Committee noted that the EEC Directive reflected conditions prevailing in Europe and might not necessarily cover toxins and parasites of public health importance in other regions of the world and agreed to retain the existing general wording.

34. The Committee agreed to delete Section 5.4 since it dealt with products which were not covered by this standard. The Committee noted the statement of the Delegation of the United States that Section 5.4 should be retained, in part because it addressed unprocessed products which were covered by the standard.

6.1 Name of the Food

35. Several delegations proposed that Section 6.1 should include provisions for the conditions of storage, as was the case with other similar standards such as Frozen Shrimps. The Committee noted that the storage provision in the General Standard for the labelling of prepackaged foods was not applicable to this type of fish product and agreed to include the following additional paragraph:

"6.1.4 The label shall state that the product should be maintained under conditions that will maintain the quality during transportation, storage and distribution".

36. The Delegation of the Netherlands pointed out that visual inspection was sufficient, since the standard dealt with deep frozen products in which no living organisms were present.

37. The Committee took note of the concern and the elaboration by the Delegation of the United States of the use of primary containers as the sampling unit.

38. It was agreed to make provisions for microwave cooking under Section 7.6.

39. The revised draft standard is based on the above discussions and the subsequent redrafting carried out by the Working Group on Quick Frozen Fish Products (see paras. 100-109). In view of the several changes introduced, the Committee considered the need to give an opportunity to member countries not present at the meeting to comment on the revised draft standard and decided to attach the draft to the report as Appendix II and return it to Step 6 for further comments and consideration at the next session of the CCFFP.

40. The Committee agreed that this would be the most appropriate moment for discussing the amendment to the Code of Practice for Frozen Fish included in Agenda Item 9.

AMENDMENTS TO THE CODE OF PRACTICE FOR FROZEN FISH (Agenda Item 9)

41. The Committee noted comments received from Cote d'Ivoire and included in document CX/FFP 92/8.

42. The Delegation of Canada outlined the structure and approach adopted by the Drafting Group for the amendment to the Code of Practice for Frozen Fish (CL 1991/20-FFP, Appendix II, pp. 11-14).

43. The Committee noted a proposal that the material removed from the Draft General Standard for Quick Frozen Fish Fillets be included in Section 6. End-Product Specifications of the Recommended International Code of Practice for Frozen

Fish. The Drafting Group had proposed that this Section be amended to include three new paragraphs.

- 6.1 Essential Health and Sanitary Requirements
- 6.2 Essential Final Product Quality Requirements
- 6.3 Optional Final Product Specifications

44. The Committee agreed to accept this approach for amendment of the Code of Practice for Frozen Fish and recommended that it be considered in future amendments of the Codes of Practice. The Committee agreed that the provisions related to commercial quality, which had been removed from all the Standards, should be collected and introduced into the relevant Code of Practice. The Delegation of Canada volunteered to take the leading role with assistance from Australia, Brazil, France, Germany, Iceland, the Netherlands, Norway, the United Kingdom and the United States. The Fisheries Department of FAO offered to provide assistance. It was also agreed that, subject to timing and funding constraints, it would be useful to revise and update the Codes to incorporate HACCP principles.

45. The observer of the EEC pointed out that the EEC Fish Hygiene Directorate (91/493/EEC) had incorporated some provisions from the Codex Codes of Practice which had thus achieved a mandatory status as part of the Directive, and proposed that certain recommendations of the Code of Practice which had important implications for the hygiene of production be made mandatory.

46. The Secretariat informed the Committee that at its last session the Commission had noted that internationally developed Codex standards, guidelines and other recommendations would be the basis for the future work of GATT as a consequence of the Uruguay Round, and had agreed that all such texts should be developed openly and with the same scientific rigour.

CONSIDERATION OF THE DRAFT CODEX STANDARD FOR DRIED SHARK FINS (Agenda Item 6)

47. The Committee had before it the Draft Standard for Dried Shark Fins, adopted by the Commission at Step 5 and revised by the Drafting Group in CL 1991/20-FFP and documents CX/FFP 92/5 and CRD 7 and 9 containing comments received from Argentina, Canada, Cuba, Germany, Japan, Mexico, New Zealand and Thailand.

48. The Committee agreed to use the document as circulated through CL 1991/20-FFP as the basis for its discussion.

49. The Committee decided to delete the reference to histamine in 5.2 (ii) as histamine was not a problem with shark.

6. LABELLING

50. It was agreed to add a section on "Labelling of Non-Retail Containers" as adopted for the Draft General Standard for Quick Frozen Fish Fillets.

7. SAMPLING, EXAMINATION AND ANALYSIS

51. The Committee decided to insert in this Section the following reference to a method of analysis for determination of moisture, which should not exceed 18%, as defined in Section 3.2.4.

7.4 Determination of Moisture

[Method to be developed.]

8. CLASSIFICATION OF DEFECTS

52. The Committee noted the extensive written comments provided from Mexico on this Section, but considered that if so decided, this could be properly dealt with in the Code of Practice for Dried Shark Fins.

8.2 Odour and Flavour

53. It was agreed to delete the reference to flavour, as shark fins were not for direct consumption and to remove reference to contamination because this matter was covered by Section 5 on Hygiene and Handling.

54. The Committee noted that the Annex B on Sensory and Physical Examination should be developed and that the FAO Fishery Department would initiate a process to elaborate this Annex in accord with a Proposed Code of Practice for Sensory Evaluation (see para. 24).

Status of the Standard

55. The Committee decided to advance the draft standard to Step 8 for adoption by the Commission as a Codex Standard. The revised draft standard appears as Appendix III to this report.

CONSIDERATION OF THE PROPOSED DRAFT CODEX STANDARD FOR QUICK FROZEN SQUID (Agenda Item 7)

56. The proposed draft standard as contained in Appendix IX of ALINORM 89/18 had been revised by the Committee at its last session and was circulated by the Drafting Group through CL 1991/20-FFP for government comments at Step 3. In addition to these two papers, the Committee had before it document CX/FFP 92/6 containing comments from Germany, Italy, Poland, Thailand and Marinalg International. The Committee discussed the revised version as in CL 1991/20-FFP.

2.2 Process Definition

57. In the second paragraph after the words "..... controlled conditions" the expression "..... which maintain the quality of the product" should be inserted. This was deemed necessary to warn against repackaging procedures which may cause excessive increase of the temperature of the product.

As a consequential amendment, add the following paragraph:

"The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution."

3.2 Glazing

58. The correct name should be inserted "WHO International Guidelines for Drinking Water Quality". The Committee agreed to make this consequential correction in all fish standards and guidelines as appropriate.

5. HYGIENE AND HANDLING

59. The consequential amendment should be made in 5.1, removal of square brackets and substitution of "matter" for "material".

7. SAMPLING, EXAMINATION AND ANALYSIS

60. The words in brackets [and drained weight] in 7.1.2 should be removed as examination of drained weight is not carried out.

7.4 Thawing

61. The Committee agreed to introduce the thawing method used for shrimps.

7.5 Cooking Methods

62. Consequential amendment, insert additionally "Microwave procedure" as in the draft revised General Standard for Quick Frozen Fish Fillets.

8. CLASSIFICATION OF DEFECTS

8.3 Colour

63. The Committee agreed to replace the text with the following: "More than 10% by weight of the package content of colour indicative of decomposition". This was accepted as reflecting more accurately the meaning of the colour changes.

8.4 Odour and Flavour

64. The Committee agreed to introduce the consequential change by deleting all the text following ".... indicative of decomposition".

Status of the Standard

65. The Committee agreed to advance the Standard to Step 5 of the Codex procedure for adoption by the Commission. The revised proposed draft standard appears as Appendix IV to this report.

REVIEW OF THE CODEX STANDARDS FOR FISH AND FISHERY PRODUCTS (Agenda Item 8)

66. For this Agenda Item the Committee had for consideration CL 1991/20-FFP (August 1991), which contained 14 standards revised by a special drafting group (Ottawa, Canada 11-15 February 1991); CX/FFP 92/7 (March 1992) containing written comments from Cuba, Egypt, Finland, Germany, Italy, Mexico, New Zealand, Spain, Sweden, Thailand and CRD 9 which contained comments from Japan.

67. The Committee was also informed of the result of the redrafting of the revised drafts included in CL 1991/20-FFP by the *Ad Hoc* Working Group (see para. 5) which split into two groups to consider canned and frozen standards.

68. The Working Group on Canned Fish Standards (Brazil, Canada, EEC, France, Japan, Netherlands, Norway, Portugal, Spain, Thailand and the USA), chaired by Dr. Mark Woolfe (United Kingdom) and the Working Group on Quick Frozen Fish Standards (Australia, Cuba, France, Germany, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Switzerland, Thailand, U.K. and the U.S.A.), chaired by Mr. D.R. White (Canada).

69. The Committee noted that redrafting by both groups had concentrated on retaining in the standards requirements essential for health protection and regulatory action and on introducing revisions when necessary. There was general agreement that when considering amendments, the review of the redrafted standards should concentrate on matters of principle, such as general structure and essential provisions, leaving more detailed comments to be provided at subsequent stages of the Codex step procedure.

70. The paragraph numbers mentioned in the discussions and the revision of all standards refer to the revised version as contained in CL 1991/20-FFP which was the basis for the redrafting carried out at this session.

A. CANNED FISH STANDARDS

1. CODEX STANDARD FOR CANNED SHRIMPS OR PRAWNS (CODEX STAN 37-1981 Rev.)

71. This standard was discussed at some length as a model to consider the major changes made during the redraft which would be introduced into the other standards.

2.2 Process Definition

72. The term "commercial sterility" was introduced as a more general expression reflecting actual practical conditions.

2.3 Presentation

73. Presentation focused on the products and sizes found in world trade to avoid any confusion in these products.

3.3.4 Foreign and Objectionable Matter

74. The Committee agreed to apply this general definition to all fish standards.

5. HYGIENE

75. The Committee agreed to retain the provision in 5.1 as a general statement relating to health, and to refer to foreign matter as a cause for rejection of the product in Section 8.1. In the latter case, additional methods for revealing foreign matter were required.

76. The Committee agreed to delete Section 5.2 (iii) referring to "sufficient vacuum" since this was not included in the general texts for hygiene proposed by the Codex Committee on Food Hygiene (ALINORM 93/13, Appendix II) and was covered by the revised Code of Hygienic Practice for Low-Acid and Acidified Low-Acid Canned Products (CAC/RCP 23-1979-Rev.1-1989).

77. The Committee concurred that the two hygiene provisions 5.2 (i) and 5.2 (ii) corresponding to the general texts developed by the Codex Committee on Food Hygiene should be supplemented by the specific requirement 5.2 (iii) concerning the hermetic seal.

7. SAMPLING EXAMINATION AND ANALYSIS

78. The Committee agreed to bring to the attention of the Codex Committee on Methods of Analysis and Sampling the urgent need for a sampling plan for the determination of net weight.

8. CLASSIFICATION OF DEFECTS

79. The Committee adopted the extended version of 8.1 concerning foreign matter and agreed to apply it consequentially to all fish standards.

80. The Committee agreed to retain Sections 8.3 Texture and 8.4 Discoloration as criteria which could cause rejection.

9. LOT ACCEPTANCE

81. The Committee noted that there was no reference to and no suitable sampling plan for the examination of container integrity defects in all canned fish standards and agreed to request the Codex Committee on Methods of Analysis and Sampling to take this into consideration.

82. In Section 9 (iii) a more general requirement was substituted for the 95% limit for declared weight which was very difficult to use in practice. It was decided to apply this to all fish standards.

Status of the Standard

83. The Committee agreed to advance the proposed draft standard to Step 5 of the step procedure. The draft is attached as Appendix V.

2. CODEX STANDARD FOR CANNED SALMON (CODEX STAN 3-1981, Rev. (1985))

84. In addition to all consequential changes in Sections 2.2, 5.1, 5.2 (iii), 8.1, 9 (iii), the following specific revisions were made.

2. Description

85. The Committee agreed to delete Pacific from the title of the standard and to leave Section 2.1 open for additional species.

86. The Delegation of the Netherlands was of the opinion that there was no need for a specific standard for salmon and that it could be incorporated in the existing standard for canned finfish.

87. The Committee agreed to a proposal by the Delegation of Norway that the species *Salmo Salaa* should be included in Sections 2.1.1 and 6.1, and that an appropriate designation should be incorporated in Section 6.1 at a later stage.

3.2 Other Ingredients

88. It was agreed to include salmon oil as specific additional ingredient.

Status of the Standard

89. The Committee agreed to advance the proposed draft standard to Step 5 of the procedure. The draft standard is attached as Appendix VI.

3. CODEX STANDARD FOR CANNED CRABMEAT (CODEX STAN 90-1981, Rev.)

90. The Committee agreed to delete Sections 6.1.1, and 6.1.2 as these were covered by 2.3 and 6.1.3. Section 7.5 was consequentially deleted.

Status of the Standard

91. The Committee agreed to move the proposed draft standard to Step 5 of the Codex procedure. The draft standard is attached as Appendix VII.

4. CODEX STANDARD FOR CANNED SARDINES AND SARDINE-TYPE PRODUCTS
(CODEX STAN 94-1981 Rev.)

92. The issue of the scope of the Standard was raised once more by the EEC, wishing to restrict consideration to *Sardina pilchardus* (Walbaum). The Chair observed that this matter had been the subject of lengthy debate previously and that the Commission had specifically approved the present scope and therefore reconsideration was beyond the remit of the Working Group and the Committee. The Observer from the EEC pointed out that it was not possible for the Community to accept 50% of species other than sardines as established in the Scope. The Delegation of Brazil noted their acceptance of Section 2.1 Description as it was and the corresponding Section 6.1 Name of the Food. The Committee agreed to delete the provision for a mixture of species in the same genus.

93. It was agreed that a provision for histamine should be incorporated, but the EEC felt that the present level of 20 mg/100g was too high and presented the levels from the current EEC Directive which specified the following conditions:

"The mean histamine level of 9 samples from a lot should not exceed 100 mg/kg. In two of these samples the level may exceed 100 mg/kg but not 200 mg/kg, no sample should be above 200 mg/kg histamine. These limits are applicable only to the *Scombridae* and *Clupeidae* families."

94. It was agreed to place the maximum level of 20 mg/100g in square brackets for further consideration and development of suitable methods of analysis.

Status of the Standard

95. The Committee agreed to advance the proposed draft standard to Step 5 and to annex it to the report as Appendix VIII.

5. CODEX STANDARD FOR CANNED TUNA AND BONITO (CODEX STAN 70-1981 Rev.)

96. The Observer of the EEC informed the Committee that the proposed draft standard for this product differed from the revised Codex standard, particularly in respect to the regrouping of the species classified tuna and bonito and the association of the terms tuna and bonito on the label. The Delegation of Thailand proposed that tribe designations be used in 2.1 instead of species.

Status of the Standard

97. The Committee agreed to advance the proposed draft standard to Step 5 and to annex it to the report as Appendix IX.

6. CODEX STANDARD FOR CANNED FINFISH (CODEX STAN 119-1981. Rev.)

2.1 Product Definition

98. The Committee agreed to replace "safe for human consumption" by "suitable for human consumption" as better reflecting actual use.

Status of the Standard

99. The Committee agreed to move the draft revised standard to Step 5 of the procedure and to annex it to the report as Appendix X.

B. QUICK FROZEN FISH STANDARDS

100. The Working Group on Frozen Fish Standards presented the major changes made to the Standard for Quick Frozen Shrimps and Prawns. These changes, were used as examples of changes made in other standards for frozen products.

101. Changes were made to the paragraph regarding glazing in Section 2.2 to make the wording more general, that is, "the product shall be processed and packaged so as to minimize dehydration and oxidation."

102. The Group removed "texture" as a final product defect because textural changes indicative of decomposition would be observed under odour and flavour.

103. The Working Group felt that microbiological standards for cooked ready-to-eat products were necessary. These could be placed in the standard or in a Code of Practice.

104. It was noted that a major review of the sampling plans was required for individually quick frozen products particularly those packed in bulk, to more correctly establish a statistically valid and practical sampling plan. A review

of methods for determining the net weight of products covered by glaze was also needed.

105. With respect to the defect description for parasites given in standards the group recommended that the existing reference to parasitic infestation be moved to the "texture" defect. As a consequence, the method for candling was modified to remove the reference to parasitic infestation. The Group also noted that in addition to the candling method as described in Section 7, other visual, non-destructive methods could be used.

106. The discussion in the Committee was addressed to major items. The Committee accepted the consequential and editorial changes introduced in the individual standards by the Working Group and agreed to attach the revised draft Codex standards as the following appendices to this report:

- Appendix II: Quick Frozen Fish Fillets;
- Appendix IV: Quick Frozen Squid;
- Appendix XI: Quick Frozen Shrimps or Prawns;
- Appendix XII: Quick Frozen Blocks of Fish Fillets, Minced Fish, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh;
- Appendix XIII: Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets Breaded or in Batter;
- Appendix XIV: Quick Frozen Lobsters;
- Appendix XV: Quick Frozen Uneviscerated and Eviscerated Finfish.

107. The Committee noted the proposal of the EEC observer that the scope of the Codex Standard for Uneviscerated and Eviscerated Quick Frozen Finfish should specifically exclude whole fish in brine and destined for the canning industry. The Committee agreed to advance these draft revised standards to Step 5 of the Codex Procedure, with the exception of the draft standard for Quick Frozen Fish Fillets which was returned to Step 6 (see para. 39).

108. The Committee noted the proposal of the observer from the EEC to include an additional lot acceptance criterion in all the Quick Frozen Fish Standards which would require the temperature in the centre of the product during distribution to be -18°C with a tolerance of $+3^{\circ}\text{C}$. The Committee noted that serious difficulties would arise in the practical application of this criterion at the retail stage. On the other hand, it was noted that Codex standards and codes of practice (CAC/RCP 8-1976) specified a number of other provisions aimed at assuring the quality and safety of the product. It was agreed that this topic should be the subject of further discussion.

109. The Committee noted that a number of standards would allow for use of aquaculture products and therefore agreed that those standards should include, in the Hygiene and Handling Section, an appropriate reference to the Code of Hygienic Practice for Products of Aquaculture (under elaboration).

CODEX STANDARD FOR SALTED FISH OF THE GADIDAE FISH FAMILY
(CODEX STAN 167-1989 Rev.)

110. The Committee noted that in revising this standard the drafting group in Ottawa had recommended that attention should be turned to amending the scope to include all fish products both dried and undried. The Committee agreed to return this standard to Step 3 for more government comments including whether this was a relevant standard.

CONSIDERATION OF THE CODE OF HYGIENIC PRACTICE FOR THE PRODUCTS OF AQUACULTURE
(Agenda Item 10)

111. The Committee had before it the proposed draft of the Code of Hygienic Practice for the Products of Aquaculture as elaborated by the Expert Consultation held in Rome in December 1990 and by the Codex Committee on Residues of Veterinary Drugs in Foods (Section 5.6 dealing with Veterinary Drugs). The draft Code was circulated through CL 1991/28-FFP. The government comments received from Canada, Cuba, Finland, Germany, Japan, Mexico and Portugal were included in documents CX/FFP 92/9, CRDs 5 and 10.

112. The Committee welcomed the draft Code and made some general suggestions for simplification, bearing in mind the wish to have a comprehensive document available for aquaculturists. This document should cover all aspects of food safety and quality issues. The observer from the EEC emphasized that the Code should not be drafted in such a way to impinge on existing fish health legislation. The Committee noted that there might be some cases of fish health which could have implications for food quality.

113. The Committee decided to retain the draft Code at Step 3 and to request further written comments from member countries and interested international organizations. Based on these comments, the FAO Fisheries Department was requested to prepare a revised version well in advance of the 21st Session of the CCFFP.

CONSIDERATION OF THE DRAFT CODE OF HYGIENIC PRACTICE FOR FISH AND FISHERY PRODUCTS IN CONTROLLED AND MODIFIED ATMOSPHERE PACKAGING (Agenda Item 11)

114. The Committee agreed at its 19th Session on the elaboration of a Code of Hygienic Practice for Fish and Fishery Products in Controlled and Modified Atmosphere Packaging. At its 19th Session the Commission supported the decision of the Executive Committee for the immediate development of the Code (para. 315, ALINORM 91/40). The Committee had before it CX/FFP 92/10 containing a draft prepared by Norway.

115. Several delegations expressed the opinion that the proposed draft should be redrafted in the format of the Codex codes of practice with incorporation of comments from several member countries. The Delegation of the Netherlands proposed that the Code should include more details on the type and conditions of use of the gases and should state the relevant consequences.

116. The Observer from the EEC welcomed the elaboration of the draft Code and observed that references should be made to the Recommended International Code of Practice for Smoked Fish. The observer also pointed out that the implementation of the HACCP system in the Code should be emphasized and that the prevention of nematodes as referred in Section 3.3 should be extended to the Codex Codes of Practice for Smoked and Salted Fish.

117. The Delegation of Sweden stated that it was advisable to bring this draft Code to the attention of the Codex Committees on Processed Meat and Poultry Products and Food Hygiene in order to avoid duplication of work in this area.

118. The Committee agreed that the proposed draft Code should be redrafted by Norway with the assistance of Denmark, France and the Netherlands and should be circulated at Step 3 for government comments and discussed at the next session of the CCFFP.

CONSIDERATION OF THE CODE OF PRACTICE ON THE UTILIZATION OF SHARK (Agenda Item 12)

119. The Committee had before it a Draft Code of Practice for the Full Utilization of Sharks, document FIIU/C844 which was elaborated by the FAO Fisheries Department, as requested by the 19th Session of the CCFFP and approved by the Commission.

120. The Committee observed that several sections of this draft should be simplified by reference to other Codex Codes of Practice and that no written comments had been received.

121. The Committee agreed that written comments should be requested by means of a circular letter at Step 3, for discussion at the next session of the CCFFP.

INFORMATION PAPER ON SALTED HERRING (Agenda Item 13)

122. The Committee had before it document CX/FFP 92/12 (CRD No. 2), prepared by the Netherlands.

123. The Committee recalled that the proposal for preparation of an information paper on salted herring was made during a discussion on the scope of the Recommended International Code of Practice for Salted Fish. The Delegation of Netherlands reported that the document was based on information received from member countries, in reply to their questionnaire.

124. The Delegation of the Netherlands informed the Committee that no trade barriers had been reported in connection with this product. Considering the large variety of herring products, and type of processes, it would be difficult to elaborate a standard which would adequately cover all the products and processes. In view of this, the development of a standard was not advisable. This statement was supported by the Delegation of Sweden.

125. In the light of the discussion and recommendation of the Delegation of the Netherlands, the Committee considered that the elaboration of such a standard should not be a priority for the time being.

PROGRESS REPORT ON SURIMI (Agenda Item 14)

126. The Committee had before it document CX/FFP 92/13 and CX FFP 92/13-Add. 1 correspondingly prepared by Japan and the United States.

127. Following the introduction of a progress report on the frozen surimi industry in Japan, the Delegation of Japan proposed to the Committee that the elaboration of the Code of Practice for Surimi should be initiated. The Delegation of the United States, noting the increased trade and consumption of surimi worldwide, supported the proposal of Japan for the elaboration of a Code of Practice for Surimi or the incorporation of appropriate provisions for surimi in the Codex Code of Practice of Minced Fish Products Prepared by Mechanical Separation (CAC/RCP 27-1983).

128. The Delegation of Japan advised that, in view of the specialized nature of the surimi industry, a separate new code would be preferable.

129. The Committee agreed to recommend to the Commission that a Code of Practice for Surimi should be elaborated. The Delegation of Japan was requested to prepare a draft with the assistance of the United States for discussion at the next session of the CCFFP.

MICROBIOLOGICAL SPECIFICATIONS FOR QUICK FROZEN COOKED CRAB MEAT (Agenda Item 16)

130. The Committee had before it CL 1990/27-FFP and document CX/FFP 92/15 containing comments received from Cote d'Ivoire and Mexico.

131. The Committee noted a document prepared by the U.S. National Advisory Committee on Microbiological Criteria for Foods on the subject of microbiological criteria for cooked ready-to-eat shrimp and crab meat. The Delegation of the United States informed the Committee that the present document was under consideration by the United States government but had not yet been adopted.

132. The Delegation of the United Kingdom stated that, in principle they supported the recommendations in regard to cooked crab meat, but would prefer to adopt the same microbiological specifications suggested by Codex for precooked peeled frozen shrimps and prawns. The Delegation of Ireland recommended using the United States' draft standards for Salmonella, *Staphylococcus aureus* and Listeria.

133. Upon the remark made by the Delegation of Denmark in regard to levels of Listeria mentioned in the document provided by the Delegation of the United States, the Chairman recalled that the Codex Committee on Food Hygiene had decided that there was not enough data available for establishing tolerance levels for Listeria. The Committee agreed not to establish levels for Listeria.

134. The Delegation of France noted that the number of sample units to be examined for Salmonella (n=30) as recommended in the United States' document was too high and it would be preferable to have n=5 as in the case of shrimps. This proposal was supported by the Delegations of Ireland, Norway and United Kingdom.

135. The Committee agreed to adopt the following levels for Salmonella and *Staphylococcus aureus*:

<u>Salmonella</u>	<u>Staphylococcus aureus</u>
n = 5	n = 5
c = 0	c = 2
m = 0	m = 100 per gram
M = 0	M = 1000 per gram

Analytical unit = 25 grams

136. In regard to the *aerobic mesophyllic* bacteria, the Delegation of Ireland noted that these bacteria were not an indicator of safety. Therefore, they did not need to be considered in this context.

137. Consideration was given to the choice between thermo-tolerant coliforms and *E. coli*. The Delegation of Ireland suggested the use of *E. coli* rather than thermo-tolerant coliforms. This view was supported by the Delegations of the United Kingdom and Denmark. The Delegation of France was of the opinion that although scientifically, it would be more correct to use *E. coli*, from a practical point of view (analysis), thermo-tolerant coliforms would be more appropriate. The Delegation of Norway was also in favour of thermo-tolerant coliforms and underlined the need of specifying the method of analysis as well.

138. The Committee decided to bring this matter to the attention of the Codex Committee on Food Hygiene and to ask their advice on this specific point.

PROPOSED AMENDMENT TO THE CANNED CRAB STANDARD (EDTA) (Agenda Item 17)

139. The Committee had before it document CX/FFP 92/16 with comments received from Finland, Germany, Mexico and Thailand, in reply to CL 1990/27-FFP.

140. The Committee noted that there was no reason to prevent the use of EDTA for Canned Crab Meat in view of the fact that it had been authorized for Canned Shrimps and Prawns.

141. Several delegations were against the use of EDTA in canned seafood, and suggested that it could be substituted by other additives, such as glucono-delta-lactone or sorbitol. The Delegation of the Netherlands stated that there was no technological necessity for EDTA or other suggested additives in canned seafood.

142. The Committee decided to advance the proposed amendment to Step 5 for adoption by the Commission and request further comments for discussion at the next Session of the CCFPP.

CONSIDERATION OF METHODS OF ANALYSIS FOR FISH AND FISHERY PRODUCTS (Agenda Item 18)

18 (a) Proposed method for the determination of drained weight of shrimps and prawns in gelled media

143. The Committee had before it the method proposed by Germany at the previous session (Appendix VI, ALINORM 91/18) and a method prepared by the United Kingdom, contained in document CX/FFP 92/17. Comments received from Cote d'Ivoire and Mexico were included in document CX/FFP 92/18.

144. The Committee noted that it was premature to accept the method proposed by the United Kingdom, taking into consideration that there had not been sufficient time to test the method and therefore decided that both the proposed methods should be appended to the report (Appendix XVI), requesting comments from governments for consideration at the next session of the CCFPP.

18 (b) Determination of exuded water content

145. The method contained in Appendix VII of ALINORM 91/18 was considered by the Committee.

146. The Delegation of France pointed out that the method was quite elaborate compared with the procedure adopted in France.

147. The Committee considered that as there was no provision for exuded water in fish standards there was no need for such method, but decided to review the position at its next session.

18 (c) Determination of the net content of frozen fish blocks covered by glaze

148. The Committee considered the method proposed by Germany and circulated as Appendix VIII, ALINORM 91/18.

149. The method was supported but with a proposal to change the temperature of the water bath to "room temperature", followed by (approximately 20°C).

150. The Committee agreed to adopt the method with the proposed change for inclusion in the standard.

18 (d) Thawing procedure for quick frozen fish blocks

151. The Committee had before it document CX/FFP 92/19 containing two proposed methods elaborated by the United States.

152. As the document was received too late for circulation to governments for comments, the Committee decided to attach the proposed method to the report as Appendix XVI for further consideration at its next session.

IDENTIFICATION OF PREDATORY SPECIES OF FISH TO WHICH THE HIGHER GUIDELINE LEVEL OF 1 MG/KG OF METHYL MERCURY APPLIES (Agenda Item 19)

153. The Committee had before it document CX/FFP 92/20 containing comments received from Germany, Poland and Portugal, and CRDs 15 and 15B with lists of predatory species provided by Australia and Germany. The Committee also received a comprehensive list of fish species, elaborated by the United States which distinguished between predatory and non predatory species.

154. The Committee noted that the Commission at its 19th Session had adopted guideline levels for methyl mercury for non-predatory and predatory fish. However the Codex Committee on Food Additives and Contaminants at its 24th Session advised the Commission, and the CCFPP, that the guideline levels adopted at Step 8 referred to total mercury rather than methyl mercury (para. 104, ALINORM 93/12). The

Committee considered that this issue could greatly influence the situation with regard to species selection and decided to await the decision of the Commission on this matter.

155. Several countries stated that the definition of predatory species or families was not always relevant with reference to the levels of mercury in fish and that other factors related to families, age, weight and length could have a major role in the selection of families of fish to which a higher guideline level for mercury should be applied.

156. The Committee noted that more information was necessary before presenting a concrete proposal on the selection of predatory species as requested by the CCFFAC and requested the Secretariat to prepare a background paper on the levels and factors influencing mercury in fish, using information collected from member countries through the monitoring programme of GEMS/Food and from the FAO Fisheries Department, for discussion at the next session of the CCFFP. The Delegation of Norway raised the question of how to handle fish with levels exceeding 1 mg/kg of total mercury at international level. The Committee's attention was drawn to the note which was an integral part of the guidelines for methyl mercury in fish and which stated *inter alia* that: "where these guideline levels are exceeded, governments should decide whether and under what circumstances, the food should be distributed within their territory of jurisdiction and what recommendations, if any, should be given as regards restrictions on consumption, especially be vulnerable groups such as pregnant women" (Codex Alimentarius Volume I General Requirements, 2nd Edition 1992, Section 6.2).

OTHER BUSINESS (Agenda Item 20)

157. No other business was considered by the Committee.

FUTURE WORK (Agenda Item 21)

158. The Committee noted that at its next session it would consider the following matters:

- Draft Standard for Canned Shrimps or Prawns (Step 7);
- Draft Standard for Canned Salmon (Step 7);
- Draft Standard for Canned Crab Meat (Step 7);
- Draft Standard for Canned Sardines and Sardine-Type Products (Step 7);
- Draft Standard for Canned Tuna and Bonito (Step 7);
- Draft Standard for Canned Finfish (Step 7);
- Draft Standard for Quick Frozen Shrimps and Prawns (Step 7);
- Draft Standard for Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (Step 7);
- Draft Standard for Quick Frozen Fish Sticks, (Fish Fingers), Fish Portions and Fish Fillets Breaded or in Batter (Step 7);
- Draft Standard for Quick Frozen Lobsters (Step 7);
- Draft Standard for Quick Frozen Unviscerated and Eviscerated Finfish (Step 7);
- Proposed Draft Standard on Dried Anchovies and Fish Crackers elaborated by Asia;
- Draft Standard for Quick Frozen Fish Fillets (Step 7);
- Review of the Code of Practice for Frozen Fish (Step 4);
- Review of the Proposed Draft Standard for Quick Frozen Squid (Step 7);
- Review of the Code of Hygienic Practice for the Products of Aquaculture (Step 4);
- Proposed Draft Code of Hygienic Practice for Fish and Fishery Products in Controlled and Modified Atmosphere (Step 4);
- Proposed Draft Code of Practice on the Utilization of the Shark (Step 4);
- Proposed Draft Code of Practice for Surimi (Step 3);
- Proposed Draft Code of Practice for Sensory Evaluation (Step 3);

- Review of Microbiological Specifications for Quick Frozen Cooked Crab Meat;
- Proposed Amendment to the Canned Crab Standard (EDTA);
- Methods of Analysis;
- Factors related to the higher guideline level of mercury in fish;
- Review of transfer of detailed provisions from Codex Fish Standards to Codes of Practices;
- Draft Amendment of the Code of Practice on Fresh Fish.

DATE AND PLACE OF NEXT SESSION (Agenda Item 22)

159. The Committee was informed that its next session would most likely be held in June 1994, in Norway.

SUMMARY STATUS OF WORK

Recommendation	Step	For Action by:	Document Reference (ALINORM 93/18)
Elaboration of a Code of Practice for Sensory Evaluation	--	CCEXEC/CAC Secretariat	para. 24
Inclusion of fresh fillets in the Codex Code of Practice for Fresh Fish	--	CCEXEC/CAC U.K. and other countries Secretariat	paras. 25-27
Draft Codex Standard for Quick Frozen Fish Fillets	6	Governments	paras. 28-39 & Appendix II
Amendment to the Code of Practice for Frozen Fish	--	Canada and other countries FAO Fisheries Dept.	para. 44
Draft Codex Standard for Dried Shark Fins	8	CAC Governments	paras. 47-55 & Appendix III
Proposed Draft Codex Standard for Quick Frozen Squid	5	CAC Governments	paras. 56-65 & Appendix IV
Revised Codex Standard for Canned Shrimps or Prawns	5	CAC Governments	paras. 71-83 & Appendix V
Revised Codex Standard for Canned Salmon	5	CAC Governments	paras. 84-89 & Appendix VI
Revised Codex Standard for Canned Crabmeat	5	CAC Governments	paras. 90-91 & Appendix VII
Revised Codex Standard for Canned Sardines and Sardine-Type Products	5	CAC Governments	paras. 92-95 & Appendix VIII
Revised Codex Standard for Canned Tuna and Bonito	5	CAC Governments	paras. 96-97 & Appendix IX
Revised Codex Standard for Canned Finfish	5	CAC Governments	paras. 98-99 & Appendix X
Revised Codex Standard for Quick Frozen Shrimps or Prawns	5	CAC Governments	paras. 100-109 & Appendix XI
Revised Codex Standard for Quick Frozen Blocks of Fish Fillets, Minced Fish, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh	5	CAC Governments	paras. 100-109 & Appendix XII
Revised Codex Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets Breaded or in Batter	5	CAC Governments	paras. 100-109 & Appendix XIII
Revised Standard for Quick Frozen Lobsters	5	CAC Governments	paras. 100-109 & Appendix XIV
Revised Standard for Quick Frozen Un-Eviscerated and Eviscerated Finfish	5	CAC Governments	paras. 100-109 & Appendix XV

SUMMARY STATUS OF WORK (Cont'd.)

Recommendation	Step	For Action By:	Document Reference (ALINORM 93/18)
Codex Standard for Salted Fish of the Gadidae Fish Family	3	Governments	para. 110
Code of Hygienic Practice for the Products of Aquaculture	3	Governments	para. 113
Draft Code of Hygienic Practice for Fish and Fishery Products in Controlled and Modified Atmosphere Packaging	3	Norway-assisted by other countries Secretariat Governments	para. 118
Draft Code of Practice on the Utilization of Shark	3	FAO Fisheries Dept. Governments	para. 121
Proposed Draft Code of Practice for Surimi	--	CAC Japan U.S.A.	para. 129
Microbiological Specifications for Quick Frozen Cooked Crabmeat	--	CCFH	para. 138
Proposed Methods of Analysis	--	Governments	paras. 143-152
Predatory species of fish to which the higher guideline level of 1 mg/kg of methyl mercury applies	--	Secretariat Governments FAO Fisheries Dept. FAO/WHO GEMS/Food	paras. 153-150

ALINORM 93/18
APPENDIX I

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ALINORM 93/18
APPENDIX II

REVISED PROPOSED DRAFT GENERAL STANDARD
FOR QUICK FROZEN FISH FILLETS

1. SCOPE

This standard applies to quick frozen fillets of fish as defined below and offered for direct consumption without further processing. It does not apply to products indicated as intended for further processing or for other industrial purposes.

2. DESCRIPTION

2.1 Product Definition

Quick frozen fillets are slices of fish of irregular size and shape which are removed from the carcass of the same species of fish suitable for human consumption by cuts made parallel to the backbone and sections of such fillets cut so as to facilitate packing, and processed in accordance with the process definitions given in Section 2.2.

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C (0°F) or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

These products shall be processed and packaged so as to minimize dehydration and oxidation.

The recognized practice of repacking quick frozen products under controlled conditions which will maintain the quality of the product, followed by the reapplication of the quick freezing process as defined, is permitted.

2.3 Presentation

2.3.1 Any presentation of the product shall be permitted provided that it:

- (a) meets all requirements of this standard, and
- (b) is adequately described on the label to avoid confusing or misleading the consumer.

2.3.2 Fillets may be presented as boneless, provided that boning has been completed including the removal of pin-bones.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Fish

Quick frozen fish fillets shall be prepared from sound fish of the appropriate species which are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

If glazed, the water used for glazing or for preparing glazing solutions shall be of potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality".

3.3 Other Ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.4 Final Product

Defects and tolerances for final product requirements described in 3.3.1 and 3.3.2 are defined in paragraph 8 of this standard. Products shall be examined by the methods given in Section 7.3.4.

3.4.1 Appearance

In the frozen state, the final product shall be reasonably free from deep dehydration.

3.4.2 Odour and Flavour

The product shall be free from objectionable odours and flavours.

3.4.3 Foreign and Objectionable Matter

The final product shall be free from foreign matter, and in packs designated boneless, bones, and reasonably free of parasites.

4. FOOD ADDITIVES

<u>Additive</u>	<u>Maximum level in final product</u>
<u>Moisture/Water - Retention Agents</u>	
- Monophosphate, monosodium or monopotassium } (Monosodium or Monopotassium orthophosphate)}	10 g/kg expressed as P ₂ O ₅ , singly
- Diphosphate, tetrasodium or tetrapotassium } (Na or K pyrophosphate) }	or in combination (includes natural Phosphate)
- Triphosphate, pentasodium or pentapotassium } or calcium (Na, K or Ca tripolyphosphate) }	
- Polyphosphate, sodium (Na hexametaphosphate)}	(naturally present)
- Sodium alginate }	5 g/kg.
<u>Antioxidant</u>	
- Ascorbate, sodium or potassium salts	1 g/kg expressed as ascorbic acid

5. HYGIENE AND HANDLING

5.1. The final product shall be free from any foreign material, that poses a threat to human health.

5.2. When tested by appropriate methods of sampling and examination prescribed by Codex Alimentarius Commission, the product:

- (a) shall be free from microorganisms or substances originating from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission, and
- (b) shall be free from any other substance in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3. It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev.2);
- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978).

6. LABELLING

In addition to the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions apply:

6.1 Name of the Food

6.1.1 The name of the product as declared on the label shall be "_____ fillets" or "fillets of _____" according to the law, custom or practice in the country in which the product is to be distributed.

6.1.2 There shall appear on the label reference to the form of presentation in close proximity to the name of the food in such additional words or phrases that will avoid misleading or confusing the consumer.

6.1.3 The term "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.1.4 The label shall state that the product should be maintained under conditions that will maintain the quality during transportation, storage and distribution.

6.2 Net Contents (Glazed Products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling or Non-Retail Containers

Information on the above provisions shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer, shall appear on the container.

However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSIS

7.1 Sampling

(i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) CAC/RM 42-1971. A sample unit is the primary container or for individually quick frozen products is at least a 1 kg portion of the sample unit.

(ii) Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.3 through 7.4, Annex A and the "Code of Practice for Sensory Examination" (under elaboration).

7.3 Determination of Net Weight

7.3.1 The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze

As soon as the package is removed from low temperature storage, open immediately and place the contents under a gentle spray of cold water. Agitate carefully so that the product is not broken. Spray until all ice glaze that can be seen or felt is removed. Remove adhering water by the use of paper towel and weight the product in a tared pan.

7.4 Candling Procedure for the Detection of Parasites

The entire sample unit is examined non-destructively by placing appropriate portions of the thawed sample unit on a 5 mm thick acryl sheet with 45% translucency and candled with a light source giving 1500 lux 30 cm above the sheet. For skin-on fillets, the skin is not removed before examination.

Parasites may be detected using this candling procedure or by other visual non-destructive means.

Each thawed fillet in the sample unit is examined by placing it intact on a 5 mm thick acryl sheet with 45% translucency and candled with a light source giving 1500 lux 30 cm above the sheet.

7.5 Determination of Gelatinous Condition

[According to the AOAC Method - "Moisture in Meat and Meat Products of the AOAC"; AOAC 1990, 983.18.]

7.6 Cooking Methods

The following procedures are based on heating the product to an internal temperature of $>70^{\circ}\text{C}$. The product must not be overcooked. Cooking times vary according to the size of the product and the temperatures used. The exact times

and conditions of cooking for the products should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminium foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminium foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-in-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook until the internal temperature of the product reaches $< 70^{\circ}\text{C}$.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used, check to ensure that no odour is imparted from the plastic bags. Cook according to equipment.

8. CLASSIFICATION OF DEFECTIVES

A sample unit shall be considered as defective when it fails to meet the following final product requirements referred to in Section 3.4.

8.1 Dehydration

Greater than 10% of the surface area of the sample unit or for pack sizes described below, exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface, which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the block.

<u>Pack Size</u>	<u>Defect Area</u>
a) ≤ 200 g units	≥ 25 cm ²
b) 201 - 500 g units	≥ 50 cm ²
c) 501 - 5000 g units	≥ 150 cm ²

8.2 Foreign Matter

The presence in the sample unit of any matter, which has not been not derived from fish, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Parasites

The presence of two or more parasites per kg of the sample unit detected by a method described in 7.4 with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 10 mm in length.

8.4 Bones (In packs designated boneless)

The presence of bones greater or equal to 10 mm in length, or greater or equal to 1 mm in diameter; a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm. The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

8.5 Odour

A sample unit affected by persistent and distinct objectionable or abnormal odours characteristic of decomposition, rancidity or feed.

8.6 Texture

A sample unit affected by excessive gelatinous condition of the flesh together with greater than [86%] moisture found in any individual fillet.

A sample unit with pasty texture resulting from parasitic infestation affecting more than [5%] of the sample unit by weight.

9. LOT ACCEPTANCE

A lot will be considered as meeting the requirements of this standard when:

- (i) the total number of "defectives" as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) - (CAC/RM 42-1969);
- (ii) the average net contents of all containers examined is not less than the declared weight, provided there is no unreasonable shortage in any containers;
- (iii) the Food Additive, Hygiene and Handling and the Labelling requirements of Sections 4, 5.1 and 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen fillets for the presence of dehydration by measuring those areas which can only be removed with a knife or other sharp instrument. Measure the total surface area of the sample unit, and calculate the percentage affected.
3. Thaw and individually examine each fillet in the sample unit for the presence of foreign matter, bone where applicable, odour, and textural defects.
4. In cases where a final decision on odour can not be made in the thawed uncooked state, a small portion of the disputed material (approximately 200 g) is sectioned from the block and the odour and flavour confirmed without delay by using one of the cooking methods defined in Section 7.6.
5. In cases where a final decision on gelatinous condition cannot be made in the thawed uncooked state, the disputed material is sectioned from the block and the gelatinous condition confirmed by using the procedure in Section 7.5.

ALINORM 93/18
APPENDIX III

PROPOSED DRAFT STANDARD FOR DRIED SHARK FINS
(BASED ON ALINORM 91/18 - APPENDIX III, REVISED)

1. SCOPE

This Standard applies to dried shark fins intended for further processing.

2. DESCRIPTION

2.1 Product Definition

Dried shark fins are the dorsal and pectoral fins cut in the form of an arc and the lower lobe of the caudal fin cut straight, from which all flesh has been removed, and are cut from species of sharks which are safe for human consumption.

2.2 Process Definition

The fins shall be subjected to a drying process so as to meet the requirements of Section 3.2.4 and shall comply with the conditions laid down hereafter.

2.3 Presentation

2.3.1 Dried shark fins may be presented with the skin on or as skinless.

2.3.2 Other Forms of Presentation

Any other presentation shall be permitted provided that it:

(i) meets all other requirements of this standard; and

(ii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Shark

Dried shark fins shall be prepared from sound sharks which are of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

None.

3.3 Final Product

3.2.1 Appearance

The final product shall be free from foreign material.

3.2.2 Odour and Flavours

The product shall be free from objectionable odours and flavours.

3.2.3 Texture

The dried shark fins shall be free from objectionable textural characteristics.

3.2.4 Percentage of Moisture

The final product shall have a moisture content not exceeding 18%.

4. FOOD ADDITIVES

No additives are permitted.

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the CAC;
- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the CAC.

5.3 It is recommended that the product covered by the provisions of this Standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Fresh Fish (CAC/RCP 9-1976);
- (iii) the proposed Code of Practice for Shark Fins (para. 91, ALINORM 91/18).

6. LABELLING

In addition to the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions shall apply:

6.1 Name of the Food

The name of the product shall be "dried shark fins" or any other appropriate name in accordance with the law and custom of the country in which the product is to be distributed.

6.1.1 There shall appear on the label reference to the form of presentation in close proximity to the name of the product in such descriptive terms that will adequately and fully describe the nature of the presentation of the product to avoid misleading or confusing the consumer.

6.1.2 In addition to the specified labelling designations above, the name of the species, the type of fin, and its size shall also appear on the label.

6.2 Labelling of Non-Retail Containers

Information on the above provisions shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer, shall appear on the container.

However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSIS

7.1 Sampling

- (i) Sampling of lots for examination of the product shall be in accordance with the Codex Sampling Plans of Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) The sampling of lots for examination of net weight shall be carried out according to the Codex Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with the procedures set out in Section 7.3, Annex B and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

The net weight (exclusive of packaging material) of each sample unit in the sample lot shall be determined.

7.4 Determination of Moisture

[Method to be developed.]

8. CLASSIFICATION OF DEFECTIVES

A sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter which has not been derived from fish, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Odour

A sample unit affected by persistent and distinct objectionable odours indicative of decomposition.

8.3 Texture

Textural breakdown of the fin, indicative of decomposition, characterized by softness.

8.4 Moisture

The sample unit exceeds 18% moisture.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this Standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- (iii) the total number of sample units not meeting the form of presentation as defined in Section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (iv) the Food Additive, Hygiene and Handling and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX B"

SENSORIC AND PHYSICAL EXAMINATION

[To be developed.]

ALINORM 93/18
APPENDIX IV

CODEX STANDARD FOR QUICK FROZEN SQUID

1. SCOPE

This Standard applies to quick frozen squid and parts of squid.

2. DESCRIPTION

2.1 Product Definition

Quick frozen squid and parts of squid are obtained from squid species of the following families:

- (i) *Loliginidae*
- (ii) *Ommastrephidae*.

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Industrial repacking of intermediate quick frozen material under controlled conditions which maintain the quality of the product, followed by the reapplication of the quick freezing process as defined above is permitted.

Quick frozen squid and parts of squid shall be processed and packaged so as to minimize dehydration and oxidation.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

- (i) meets all the requirements of this standard, and
- (ii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Squid

Quick frozen squid shall be prepared from sound squid which are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

If glazed, the water used for glazing or for preparing glazing solutions shall be of potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality."

3.3 Final Product

Defects and tolerances for final product requirements described in 3.4.1, through 3.4.4 are described in Section 8 of this Standard. Products shall be examined by the methods given in Section 7.

3.3.1 Appearance

The final product shall be free from colour indicative of decomposition and reasonably free from deep dehydration.

3.3.2 Odour and Flavour

The product shall be free from objectionable odours.

3.3.3 Texture

The product shall be free from objectionable textural characteristics.

3.3.4 Foreign Matter

The product shall be free from foreign matter.

4. FOOD ADDITIVES

No food additives are permitted in these products.

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign matter that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978);
- (iii) the Recommended International Code of Practice for Cephalopods (CAC/RCP 37-1989).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of The Food

6.1.1 The name of the product shall be "squid", preceded or followed by reference to the presentation, in close proximity to the name of the food in such additional words or phrases that will avoid misleading or confusing the consumer.

6.1.2 In addition, the labelling shall show the term "frozen", or "quick frozen" whichever is customarily used in the country in which the product is distributed, to describe a product subjected to the freezing process described in sub-section 2.2.

6.2 Net Contents (Glazed Products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address of the manufacturer or packer shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

7.1.1 Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL - 6.5) CAC/RM 42-1977. Sampling of lots composed of blocks shall be in accordance with the sampling plan developed for quick frozen fish blocks (para. 69, ALINORM 89/18). The sample unit is the primary container or for individually quick frozen products is at least a 1 kg portion of the sample unit.

7.1.2 Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight.

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.3 through 7.5, Annex A and the Code of Practice for Sensory Examination (under development).

7.3 Determination of Net Weight

7.3.1 Determination of Net Weight of Product not Covered by Glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze (Alternate Methods)

- (i) As soon as the package is removed from frozen temperature storage, place the product in a container containing an amount of fresh potable water of 27°C (80°F) equal to 8 times the declared weight of the product. Leave the product in the water until all ice is melted. If the product is block frozen, turn block over several times during thawing. The point at which thawing is complete can be determined by gently probing the block apart.
- (2) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565) or alternatively 2.38 mm (U.S. No. 8 Standard Screen.)
 - (i) If the quantity of the total contents of the package is 500 g (1.1 lbs) or less, use a sieve with a diameter of 20 cm (8 inches).
 - (ii) If the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).
- (3) After all glaze that can be seen or felt has been removed and the shrimps or prawns separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.
- (4) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be part of the net content of the package.

7.4 Procedure for Thawing

The sample unit is thawed by enclosing it in a film-type bag and immersing in water at room temperature (not higher than -35°C). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the squid until no hard core of ice crystals are left.

7.5 Cooking Methods

The following procedures are based on heating the product to an internal temperature of >70°C. Cooking times vary according to the size of the product and the temperatures used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-In-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook until the internal temperature of the product reaches $>70^{\circ}\text{C}$.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used, check to ensure that no odour is imparted from the plastic bags. Cook according to equipment instructions.

8. CLASSIFICATION OF DEFECTS

The sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in 3.4.

8.1 Deep Dehydration

Greater than 10% of the surface area of the sample unit exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the squid.

8.2 Foreign Matter

The presence in the sample unit of any matter which has not been derived from squid (excluding packing material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Colour (Skinned Squid)

More than 10% by weight of the package content of colour indicative of decomposition.

8.4 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition.

8.5 Texture

Textural breakdown of the flesh, indicative of decomposition, characterized by muscle structure which is mushy or paste-like.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container;
- (iii) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen squid for the presence of deep dehydration by measuring those areas which can only be removed with a knife or other sharp instrument. Measure the total surface area of the sample unit, and determine the percentage affected using the following formula;

$$\frac{\text{area affected}}{\text{total surface area}} \times 100\% = \% \text{ affected by deep dehydration}$$
3. Thaw and individually examine each squid in the sample unit for the presence of foreign matter and colour.
4. Examine each squid using the criteria outlined in Section 8. Flesh odours are examined by making a cut parallel to the surface of the flesh so that the exposed surface can be evaluated.
5. In cases where a final decision on odour and texture can not be made in the thawed uncooked state, a portion of the sample unit is sectioned off and the odour, flavour and texture confirmed without delay by using one of the cooking methods defined in Section 7.5.

ALINORM 93/18
APPENDIX V

CODEX STANDARD FOR CANNED SHRIMPS OR PRAWNS
(CODEX STAN. 37-191, REVISED)

1. SCOPE

This Standard applies to canned shrimps or canned prawns.¹ It does not apply to specialty products where shrimp constitutes less than 50% m/m of the contents.

2. DESCRIPTION

2.1 Product Definition

Canned shrimp is the product prepared from any combination of species of the families *Penaeidae*, *Pandalidae*, *Crangonidae* and *Palaemonidae* from which heads, shell, antennae have been removed.

2.2 Process Definition

Canned shrimp are packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

The product shall be presented as:

2.3.1 Peeled shrimp - shrimp which have been headed and peeled without removal of the dorsal tract;

2.3.2 Cleaned or de-veined - peeled shrimp which have had the back cut open and the dorsal tract removed at least up to the last segment next to the tail. The portion of the cleaned or de-veined shrimp shall make up 95% of the shrimp contents;

2.3.3 Broken shrimp - more than 10% of the shrimp contents consist of pieces of peeled shrimp of less than four segments with or without the vein removed.

2.3.4 Other Forms of Presentation

Any other presentation will be permitted provided that it:

2.3.4.1 is sufficiently distinctive from other forms of presentation laid down in this standard;

2.3.4.2 meets all other requirements of this standard;

2.3.4.3 is adequately described on the label to avoid confusing or misleading the consumer.

2.3.5 Size

Canned shrimp may be designated as to size in accordance with the following:

¹ Hereafter referred to as "shrimp".

- (i) The actual count range may be declared on the label; or
- (ii) The terms "extra large", "jumbo", "large", "medium", "small", "tiny" may be used provided that the range is in accordance with the following table:

Number of whole shrimp (including pieces greater than 4 segments) per 100g of drained product

<u>Size Designation</u>	<u>Range</u>
Extra Large or Jumbo	13 or less
Large	14-19
Medium	20-34
Small	35-65
Tiny	more than 65

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Shrimp

Shrimp shall be prepared from sound shrimp of the species in sub-section 2.1 which are of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

The packing medium and all other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are defined in Section 8 of this Standard.

3.3.1 Appearance

Canned shrimp shall be reasonably free from discolourations.

3.3.2 Odour and Flavour

Canned shrimp shall be free from objectionable odours and flavours.

3.4.3 Texture

Canned shrimp shall be reasonably free from objectionable textural characteristics.

3.4.4 Foreign and Objectionable Matter

Canned shrimp shall be free from foreign matter and practically free from objectionable matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

4.1 Colours

The following colours may be added at the level provided for the in the Standard for the purpose of restoring colour lost in processing:

<u>Additive</u>		<u>Maximum Level in the Final Product</u>
Amaranth (*)	CI 16185)	30 mg/kg of the
Ponceau 4R (*)	CI 16255)	final product
Sunset Yellow FCF	CI 15985)	singly or in
Tartrazine	CI 19140)	combination

4.2 Miscellaneous

<u>Additive</u>		<u>Maximum Level in the Final Product</u>
Calcium disodium ethylenediaminetetraacetate (Ca, Na ₂ EDTA)	)	250 mg/kg of the final product
Citric acid	)	Limited by GMP
Orthophosphoric acid (*)	)	850 mg/kg of the final product

(*) Temporarily endorsed.

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material, that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from microorganisms capable of development under normal conditions of storage; and
- (ii) shall not contain any other substances including substances derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (iii) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the product covered by the provisions of this standard be prepared in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);
- (iii) the Recommended Code of Hygienic Practice for Low Acid Canned Foods (CAC/RCP 23-1979);
- (iv) the Recommended Code of Practice for Shrimps or Prawns (CAC/RCP 17-1978).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of The Food

6.1.1 The name of the product as declared on the label shall be "shrimp", or "prawns", and may be preceded or followed by the common or usual name of the species in accordance with the law and custom of the country in which the product is sold and in a manner not to mislead the consumer.

6.1.2 The name of the product shall be qualified by a term descriptive of the presentation in accordance with Sections 2.3.1 to 2.3.4.

6.1.3 If the canned shrimp are labelled as to size, the size shall comply with the provisions of Section 2.3.5.

6.1.4 Broken shrimp defined in 2.3.3 shall be so labelled.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

(i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL - 6.5) CAC/RM 42-1969;

(ii) Sampling of lots for examination of net weight and drained weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight.

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination in accordance with procedures elaborated in Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

Net contents of all sample units shall be determined by the following procedure:

(i) Weigh the unopened container;

(ii) Open the container and remove the contents;

(iii) Weigh the empty container, (including the end) after removing excess liquid and adhering meat;

(iv) Subtract the weight of the empty container from the weight of the unopened container. The resultant figure will be the net content.

7.4 Determination of Drained Weight

The drained weight of all sample units shall be determined by the following procedure:

(i) Maintain the container at a temperature between 20°C and 30°C for a minimum of 12 hours prior to examination;

(ii) Open and tilt the container to distribute the contents of a pre-weighed circular sieve which consists of wire mesh with square openings of 2.8 mm x 2.8 mm;

- (iii) Incline the sieve at an angle of approximately 17-20° and allow the shrimps to drain for two minutes, measured from the time the product is poured into the sieve;
- (iv) Weigh the sieve containing the drained shrimps;
- (v) The weight of drained shrimps is obtained by subtracting the weight of the sieve from the weight of the sieve and drained product.

7.5 Determination of Size Designation

The size, expressed as the number of shrimp per 100g of drained product, is determined by the following equation:

$$\frac{\text{Number of whole shrimp in unit}}{\text{Declared drained weight of unit}} \times 100 = \# \text{ shrimp/100g}$$

8. CLASSIFICATION OF DEFECTS

A sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter which has not been derived from shrimps or prawns, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

Textural breakdown of the flesh which is characterized by muscle structure which is very tough or mushy.

8.4. Discolouration

A sample unit affected by distinct blackening of more than 10% of the surface area of individual shrimp which affects more than 25% of the number of shrimp, in the sample unit.

8.5 Objectionable Matter

A sample unit affected by:

- (i) struvite crystals - any struvite crystal greater than 5 mm in length; or
- (ii) other objectionable matter - any combination of loose or attached shell, head pieces or antennae in excess of 2% of the drained weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting presentation requirements in Section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (iii) the average net weight and the average drained weight of all sample units examined is not less than the declared weight and provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external can examination for the presence of container integrity defects or can ends which may be distorted outwards.
2. Open can and complete weight determination according to defined procedures in Sections 7.3 and 7.4.
3. Carefully remove the product and examine for size designation in accordance with the procedure in Section 7.4.
4. Examine product for discolouration, foreign and objectionable matter.
5. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

ALINORM 93/18
APPENDIX VI

CODEX STANDARD FOR CANNED SALMON
(CODEX STAN. 3-1981, REV. (1985) REVISED)

1. SCOPE

This standard applies to canned salmon with or without salt and/or salmon oil added.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Canned Pacific Salmon is the product prepared from headed and eviscerated fish of any of the species listed below from which the fins and tails have been removed.

- *Oncorhynchus nerka*
- *Oncorhynchus kisutch*
- *Oncorhynchus tshawytscha*
- *Oncorhynchus gorbuscha*
- *Oncorhynchus keta*
- *Oncorhynchus masou*

2.1.2 Other species

Salmo Salaa

2.2 Process Definition

Canned salmon is packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

Canned salmon shall consist of sections which are cut transversely the fish and which are filled vertically into the can. The sections shall be packed so that the cut surfaces are approximately parallel with the ends of the container.

2.3.1 Skinless and Boneless Salmon shall consist of canned Pacific salmon from which the skin and bones have been removed.

2.3.2 Other Forms of Presentation

Any other presentation shall be permitted provided that it:

- (i) is sufficiently distinctive from other forms of presentation laid down in this standard;
- (ii) meets all other requirements of this standard; and
- (iii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Salmon

The product shall be prepared from sound fish of the species in Section 2.1 and of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

The salt shall be of food grade quality. The edible salmon oil shall be of food grade quality and comparable in colour, viscosity and flavour to the oil which would naturally occur in the product.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are defined in Section 8 of this Standard.

3.3.1 Appearance

Canned Pacific salmon shall be reasonably free from objectionable colours.

3.3.2 Odour and Flavour

Canned Pacific salmon shall be free from objectionable odours and flavours.

3.3.3 Texture

Canned Pacific salmon shall be reasonably free from objectionable textural characteristics.

3.3.4 Foreign and Objectionable Matter

Canned Pacific salmon shall be free from foreign matter and practically free from objectionable matter.

4. FOOD ADDITIVES

No additives are permitted in this product.

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from microorganisms capable of development under normal conditions of storage; and
- (ii) shall not contain any other substance derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the CAC; and
- (iii) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the products covered by the provisions of this standards be prepared in accordance with the following codes:

- (i) the appropriate sections of the Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);

(iii) the Recommended Code of Hygienic Practice for Low Acid and Acidified Low-Acid Canned Foods (CAC/RCP 26-1979)

6. LABELLING

In addition to the provisions of the Codex General Standard for Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions shall apply.

6.1 The Name of the Food

The name of the product shall be the designation appropriate to the species of the fish packed as shown below:

<u>Species</u>	<u>Designation</u>
<i>Oncorhynchus nerka</i>	Sockeye Salmon or Red Salmon
<i>Oncorhynchus kisutch</i>	Coho Salmon, Silver Salmon or Medium Red Salmon
<i>Oncorhynchus tshawytscha</i>	Spring Salmon, King Salmon or Chinook Salmon
<i>Oncorhynchus gorbuscha</i>	Pink Salmon
<i>Oncorhynchus keta</i>	Chum Salmon or Keta Salmon
<i>Oncorhynchus masou</i>	Cherry Salmon
<i>Salmo Salaa</i>	

Other species may be added later.

Other designations may be permitted if they meet the laws of the importing country.

6.2 Presentation

The presentation provided for in Section 2.3.1 and 2.3.2 shall be declared in close proximity to the common name.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the final product as prescribed in Section 3.3 shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. CAC/RM 42-1969);
- (ii) Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight.

7.2 Sensory Evaluation and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with Section 7.3, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

Net contents of all sample units shall be determined by the following procedure:

- (i) Weigh the unopened container;
- (ii) Open the container and remove the contents;

- (iii) Weigh the empty container, (including the end) after removing excess liquid and adhering meat;
- (iv) Subtract the weight of the empty container from the weight of the unopened container. The resultant figure will be the net content.

8. CLASSIFICATION OF DEFECTIVES

A sample unit will be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter which has not been derived from salmon, does not pose a threat to human health and is readily recognized without magnification, or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

Textural breakdown of the flesh, indicative of decomposition, characterized by muscle structure that is mushy, or contains honeycombed flesh in excess of 5% of the net contents.

8.4 Discolouration

A sample unit affected by distinct discolouration indicative of decomposition or rancidity or by sulphide staining of the meat exceeding 5% of the net contents.

8.5 Objectionable Matter

A sample unit affected by:

- (i) struvite crystals - any struvite crystal greater than 5mm in length; or
- (ii) other objectionable matter - fins, viscera, head parts and scales in excess of 2% of the net weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the form of presentation as defined in section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);

- (iii) the average net weight and the average drained weight of all sample units examined is not less than the declared weight, and provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

ANNEX "A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external can examination for the presence of container integrity defects or can ends which may be distorted outward.
2. Open can and complete weight determination according to defined procedures in Sections 7.3.
3. Examine product for discolouration, foreign and objectionable matter. The presence of hard bone is an indicator of underprocessing and will require an evaluation for sterility.
4. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

ALINORM 93/18
APPENDIX VII

CODEX STANDARD FOR CANNED CRAB MEAT
CODEX STAN 90-1981 REVISED

1. SCOPE

This standard applies to canned crab meat. It does not apply to specialty products where crab meat constitutes less than 50% m/m of the contents.

2. DESCRIPTION

2.1 Product Definition

Canned crab meat is prepared singly or in combination from the leg, claw, body and shoulder meat from which the shell has been removed, of any of the edible species of the sub-order *Brachyura* of the order *Decapoda* and all species of the family *Lithodidae*.

2.2 Process Definition

Canned crab meat is packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

- (i) meets all requirements of this standard; and
- (ii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Crab Meat

Canned crab meat shall be prepared from sound crab of the species designated in 2.1 which are alive immediately prior to the commencement of processing and of a quality suitable for human consumption.

3.2 Other Ingredients

The packing medium and all other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are defined in Section 8 of this Standard.

3.3.1 Appearance

Canned crab meat shall be reasonably free from objectionable discoloration.

3.3.2 Odour and Flavour

Canned crab meat shall be free from objectionable odours and flavours.

3.3.3 Texture

Canned crab meat shall be reasonably free from objectionable textural characteristics.

3.3.4 Foreign and Objectionable Matter

Canned crab meat shall be free from foreign matter and practically free from struvite crystals.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

<u>Additive</u>	<u>Maximum Level in the Final Product</u>
<u>pH Regulating Agents</u> [Sodium diphosphate] (Syn.: Sodium acid pyrophosphate) Phosphoric acid	10 g/kg, singly or in combination expressed as P ₂ O ₅ (includes natural phosphates)
Citric acid	Limited by Good Manufacturing Practice
<u>Flavour Enhancer</u> Monosodium glutamate	500 mg/kg

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (ii) shall not contain any other substance including substances derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the CAC; and
- (iii) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the following codes:

- (i) the appropriate sections of the Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);
- (iii) the Recommended Code of Hygienic Practice for Low Acid Canned Foods (CAC/RCP 26-1979);
- (iv) Code of Practice for Crabs (CAC/RCP 28-1983).

6. LABELLING

In addition to provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 Name of the Food

6.1.1 The name of the product shall be "crab" or "crab meat".

6.1.2 In addition, the label shall include other descriptive terms that will avoid misleading or confusing the consumer.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

(i) Sampling of lots for examination of the final product as prescribed in Section 3.3 shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. CAC/RM 42-1969);

(ii) Sampling of lots for examination of net weight and drained weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

Net weight of all sample units shall be determined by the following procedures:

- (i) Weigh the unopened container;
- (ii) Open the container and remove the contents;
- (iii) Weigh the empty container, including the end and any wrapping material, after removing excess liquid and adhering meat;
- (iv) Subtract the weight of the empty container and any wrapping material from the weight of the unopened container. The resultant figure is the net content.

7.4 Determination of Drained Weight

The drained weight of all sample units shall be determined by the following procedures:

- (i) Maintain the container at a temperature of between 20°C and 30°C for a minimum of 12 hours prior to examination;
- (ii) Open the container and distribute the contents on a pre-weighed circular sieve having a wire mesh with square openings of 2.8 mm x 2.8 mm;

- (iii) Remove all wrapping material and incline the sieve at an angle of approximately 17-20° and allow the meat to drain two minutes, measured from the time the product is poured onto the sieve;
- (iv) Weigh the sieve containing the drained crab meat;
- (v) Determine the weight of drained crab meat by subtracting the mass of the sieve from the mass of the sieve with drained product.

8. CLASSIFICATION OF DEFECTIVES

A sample unit will be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter, which has not been derived from crab meat, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

- (i) Excessively mushy flesh uncharacteristic of the species in the presentation; or
- (ii) Excessively tough flesh uncharacteristic of the species in the presentation.

8.4 Discolouration

A sample unit affected by distinct discolourations indicative of decomposition or rancidity or by blue, brown, black discolourations exceeding 5% by weight of the drained contents, or black sulphide staining of the meat exceeding 5% by weight of the drained contents.

8.5 Objectionable Matter

A sample unit affected by:

- (i) struvite crystals - any struvite crystal greater than 5 mm in length; or
- (ii) other objectionable matter - shell, gills, viscera, cartilage, leg tendons, in excess of 2% by weight of the drained weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate

sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);

- (ii) the total number of sample units not meeting the form of presentation defined in section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (iii) the average net weight and the average drained weight where appropriate of all sample units examined is not less than the declared weight, and provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

ANNEX "A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external can examination for the presence of container integrity defects or can ends which may be distorted outwards.
2. Open can and complete weight determination according to defined procedures in Sections 7.3 and 7.4.
3. Carefully remove the product and determine the form of pack according to the defined procedures in Section 7.5.
4. Examine product for discoloration, foreign and objectionable matter.
5. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

CODEX STANDARD FOR
CANNED SARDINES AND SARDINE-TYPE PRODUCTS
CODEX STAN 94-1981 REVISED

1. SCOPE

This standard applies to canned sardines and sardine-type products¹ packed in water or oil or other suitable packing medium. It does not apply to speciality products where sardines constitute less than 50% m/m of the net contents of the can.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Canned sardines are prepared from fresh or frozen fish of the following species:

- *Sardina pilchardus* (Walbaum)
- *Sardinops melanosticta*, *neopilchardus*, *ocellata*, *sagax* or *caerulea*
- *Sardinella aurita*, *anchovia*, *brasilensis*, *maderensis*, *serim*, *longiceps*, *gibbosa*
- *Clupea harengus*
- *Sprattus sprattus* (*Clupea sprattus*)
- *Hyperlophus vittatus*
- *Nematalos vlaminghi*
- *Etrumeus microps*
- *Ethmidium maculatus*
- *Engraulis anchoita*
- *Engraulis ringens*
- *Engraulis mordax*
- *Opisthonema oglinum*

2.1.2 Head and gills shall be completely removed; scales and/or tail may be removed. The fish may be eviscerated. If eviscerated, it shall be practically free from visual parts other than roe, milt or kidney. If ungutted, it shall be practically free from undigested feed or used feed.

2.2 Process Definition

Canned sardines are packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

- (i) contains at least two fish in each can; and
- (ii) meets all requirements of this standard; and
- (iii) is adequately described on the label to avoid confusing or misleading the consumer.

¹ Hereafter referred to as canned sardines.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Sardines

Canned sardines shall be prepared from sound fish of the species listed under sub-section 2.1 which are of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

The packing medium and all other ingredients used shall be of food grade quality and conform to all applicable Codex Standards.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are described in Section 8 of this standard.

3.3.1 Appearance

Canned sardines shall be reasonably free from discolourations.

3.3.2 Odour and Flavour

Canned sardines shall be free from objectionable odours and flavours.

3.3.3 Texture

Canned sardines shall be reasonably free from objectionable textural characteristics.

3.3.4 Foreign Matter and Objectionable Matter

Canned sardines shall be free from foreign matter and practically free from objectionable matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

<u>Additive</u>	<u>Maximum level in the final product</u>
<u>Thickening or jellifying agents</u> (for use in packing medium only):	
- Sodium carboxymethyl cellulose (CMC)	} 20 g/kg singly or in combination in the packing medium
- Pectin	
- Pectin (amidated)*	
- Modified starches	
- Agar agar	
- Carrageenan	
- Guar gum	
- Carob bean gum	
- Alginic acids and its calcium, potassium and sodium salts	
- Xanthan gum [10 g/kg]	
<u>Acidifying agents:</u>	
- Acetic acid	} Limited by Good Manufacturing Practices
- Citric acid	
- Lactic acid	

Natural flavours, e.g.

- Spice oils } Limited by Good
- Spice extracts } Manufacturing Practices

Smoke flavours

- (natural smoke solutions and their extracts) } Limited by Good
- } Manufacturing Practices

* Temporarily endorsed

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination as prescribed by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (ii) no sample unit shall contain histamine that exceeds [20 mg per 100g]; and
- (iii) shall not contain any other substance including substances derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the CAC; and
- (iv) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the following codes:

- (i) the appropriate sections of the Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);
- (iii) the Recommended Code of Hygienic Practice for Low Acid Canned Foods (CAC/RCP 26-1979).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 Name of the Food

The name of the product shall be:

- 6.1.1 (i) "Sardines" (to be reserved exclusively for *Sardina pilchardus* (Walbaum)); or
- (ii) "X sardines" of a country, a geographic area, the species, or the common name of the species in accordance with the law and custom of the country in which the product is sold, and in a manner not to mislead the consumer.

6.1.2 The name of the packing medium shall form part of the name of the food.

6.1.3 If the fish has been smoked or smoke flavoured, this information shall appear on the label in close proximity to the name.

6.1.4 In addition, the label shall include other descriptive terms that will avoid misleading or confusing the consumer.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the final product as prescribed in Section 3.3 shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. CAC/RM 42-1969);
- (ii) Sampling of lots for examination of net weight and drained weight where appropriate shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

Net contents of all sample units shall be determined by the following procedure:

- (i) weigh the unopened container;
- (ii) Open the container and remove the contents;
- (iii) Weigh the empty container, (including the end) after removing excess liquid and adhering meat;
- (iv) Subtract the weight of the empty container from the weight of the unopened container. The resultant figure will be the net content.

7.4 Determination of Drained Weight

The drained weight of all sample units shall be determined by the following procedure:

- (i) Maintain the container at a temperature between 20°C and 30°C for a minimum of 12 hours prior to examination;
- (ii) Open and tilt the container to distribute the contents on a pre-weighed circular sieve which consists of wire mesh with square openings of 2.8 mm x 2.8 mm;
- (iii) Incline the sieve at an angle of approximately 17-20° and allow the fish to drain for two minutes, measured from the time the product is poured into the sieve;
- (iv) Weigh the sieve containing the drained fish;
- (v) The weight of drained fish is obtained by subtracting the weight of the sieve from the weight of the sieve and drained product.

8. CLASSIFICATION OF DEFECTIVES

A sample unit will be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter which has not been derived from sardines, is readily detectable without magnification and does not pose a threat to human health.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

- (i) Excessively mushy flesh uncharacteristic of the species in the presentation;
- (ii) Excessively tough or fibrous flesh uncharacteristic of the species in the presentation.

8.4 Discolouration

A sample unit affected by distinct discoloration indicative of decomposition or rancidity or by sulphide staining of more than 5% of the fish by weight in the sample unit.

8.5 Objectionable Matter

A sample unit affected by:

- (i) struvite crystals - any struvite crystal greater than 5 mm in length; or
- (ii) other objectionable matter - any combination of sardines from which the heads and gills have not been removed which exceeds 5% of the number of fish in the sample unit.

9. LOT ACCEPTANCE

A lot will be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the presentation defined in 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (iii) the average net weight or the average drained weight of all sample units examined is not less than the declared weight, and provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive; Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

ANNEX "A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external can examination for the presence of container integrity defects or can ends which may be distorted outwards.
2. Open can and complete weight determination according to defined procedures in Sections 7.3 and 7.4.
3. Carefully remove product and examine for discoloration, foreign matter and struvite crystals. The presence of a hard bone is an indicator of underprocessing and will require an evaluation for sterility.
4. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

ALINORM 93/18
APPENDIX IX

CODEX STANDARD FOR CANNED TUNA AND BONITO
CODEX STAN 70-1981 REVISED

1. SCOPE

This standard applies to canned tuna and bonito.¹ It does not apply to speciality products where the tuna constitutes less than 50% m/m of the contents.

2. DESCRIPTION

2.1 Product Definition

Canned Tuna and Bonito are the products consisting of the flesh of any of the appropriate species listed below, packed in hermetically sealed containers.

Canned Tuna

- *Thunnus alalunga*
- *Thunnus albacores*
- *Thunnus atlanticus*
- *Thunnus obesus*
- *Thunnus thynnus maccoyii*
- *Thunnus thynnus orientalis*
- *Thunnus thynnus thynnus*
- *Thunnus tongoll*
- *Euthynnus affinis*
- *Euthynnus alletteratus*
- *Euthynnus lineatus*
- *Euthynnus pelamis*
(Syn. *Katsuwonus pelamis*)
- [*Allothuss fallai*]
- [*Auxis rochei*]
- [*Auxis thazard*]

Bonito

- *Sarda chiliensis*
- *Sarda orientalis*
- *Sarda sarda*
- *Sarda velox*
- [*Cybiosarda elegans*]
- [*Gymnosarda unicolor*]
- [*Orcynopsis unicolor*]
- [*Sarda australis*]

2.2 Process Definition

Canned tuna shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

The product shall be presented as:

¹ Hereafter referred to as "canned tuna".

2.3.1 Solid (skin-on or skinless) - fish cut into transverse segments which are placed in the can with the planes of their transverse cut ends parallel to the ends of the can. The proportion of free flakes or chunks shall not exceed 18% of the drained weight of the container.

2.3.2 Chunk - pieces of fish most of which have dimensions of not less than 1.2 cm in each direction and in which the original muscle structure is retained. The proportion of pieces of flesh of which the dimensions are less than 1.2 cm shall not exceed [50%] of the drained weight of the container.

2.3.3 Flake or flakes - a mixture of particles and pieces of fish most of which have dimensions of not greater than 1.2 cm in each direction. The proportion of pieces of flesh of which the dimensions are less than 1.2 cm exceed [50%] of the drained weight of the container.

2.3.4 Grated or shredded - a mixture of particles of cooked fish that have been reduced to a uniform size, in which particles are discrete and do not comprise a paste.

2.3.5 Any other presentation shall be permitted provided that it:

2.3.5.1 is sufficiently distinctive from other forms of presentation laid down in this standard;

2.3.5.2 meets all other requirements of this standard;

2.3.5.3 is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Tuna

Canned tuna shall be prepared from sound fish of the species in subsection 2.1 and of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

The packing medium and all other ingredients used shall be of food grade quality and conform to all applicable Codex Standards.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are defined in Section 8 of this Standard.

3.3.1 Appearance

Canned tuna shall be reasonably free from discolourations.

3.3.2 Odour and Flavour

Canned tuna shall be free from objectionable odours and flavours.

3.3.3 Texture

Canned tuna shall be reasonably free from objectionable textural characteristics.

3.3.4 Foreign and Objectionable Matter

Canned tuna shall be free from foreign matter and practically free from struvite crystals and objectionable matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

<u>Additive</u>	<u>Maximum level in the final product</u>
Sodium diphosphate (Syn.: Sodium acid pyrophosphate)	10 g/kg expressed as P ₂ O ₅ (includes natural phosphate)

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination as prescribed by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (ii) no sample unit shall contain histamine that exceeds [20 mg per 100 g]; and
- (iii) shall not contain any other substance including substances derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the CAC; and
- (iv) shall have sufficient vacuum to ensure that can ends do not extend outwards when the product is heated to a temperature of 35°C; and
- (v) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the following codes:

- (i) the appropriate sections of the Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) the Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);
- (iii) the Recommended Code of Hygienic Practice for Low Acid Canned Foods (CAC/RCP 26-1979).

6. LABELLING

In addition to provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions apply:

6.1 The Name of the Food

6.1.1 The name of the product as declared on the label shall be "tuna", "bonito", or "bonito-tuna", and may be preceded or followed by the common or usual

name of the species, both in accordance with the law and custom of the country in which the product is sold, and in a manner not to mislead the consumer.

6.1.2 The name of the product may be qualified or accompanied by a term descriptive of the colour of the product, provided that the term "white" shall be used only for *Thunnus alalunga* and the terms "light" "dark" and "blend" shall be used only in accordance with any rules of the country in which the product is sold.

6.1.3 The name of the packing medium shall form part of the name of the food.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the final product as prescribed in Section 3.3 shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. CAC/RM 42-1969);
- (ii) Sampling of lots for examination of net weight and drained weight as appropriate shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with the procedures set out in Sections 7.3 through 7.5, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

Net contents of all sample units shall be determined by the following procedure:

- (i) Weigh the unopened container;
- (ii) Open the container and remove the contents;
- (iii) Weigh the empty container, (including the end) after removing excess liquid and adhering meat;
- (iv) Subtract the weight of the empty container from the weight of the unopened container. The resultant figure will be the net content.

7.4 Determination of Drained Weight

The drained weight of all sample units shall be determined by the following procedure:

- (i) Maintain the container at a temperature between 20°C and 30°C for a minimum of 12 hours prior to examination;
- (ii) Open and tilt the container to distribute the contents on a pre-weighed circular sieve which consists of wire mesh with square openings of 2.8 mm x 2.8 mm;
- (iii) Incline the sieve at an angle of approximately 17-20° and allow the fish to drain for two minutes, measured from the time the product is poured into the sieve;

- (iv) Weigh the sieve containing the drained fish;
- (v) The weight of drained fish is obtained by subtracting the weight of the sieve from the weight of the sieve and drained product.

7.5 Determination of Presentation

The presentation of all sample units shall be determined by the following procedure.

- (i) Open the can and drain the contents, following the procedures outlined in 7.4;
- (ii) Remove and place the contents onto a tared 1.2 cm mesh screen equipped with a collecting pan;
- (iii) Separate the tuna with a spatula being careful not to break the configuration of the pieces. Ensure that the smaller pieces of tuna are moved to the top of a mesh opening to allow them to fall through the screen onto the collecting pan;
- (iv) Segregate the material on the pan according to flaked, grated (shredded) or paste and weigh the individual portions to establish the weight of each component;
- (v) If declared as a "chunk" pack weigh the screen with the fish retained and record the weight. Subtract the weight of the sieve from this weight to establish the weight of solid and chunk tuna;
- (vi) If declared as "solid" pack remove any small pieces (chunks) from the screen and reweigh. Subtract the weight of the sieve from this weight to establish the weight of "solid" tuna.

Calculations

- (i) Express the weight of flaked, grated (shredded and paste) as a percentage of the total drained weight of tuna.

$$\% \text{ flakes} = \frac{\text{Weight of flakes}}{\text{Total weight of drained tuna}} \times 100\%$$

- (ii) Calculate the weight of solid and chunk tuna retained on the screen by difference and express as a % of the total drained weight of tuna.

$$\% \text{ solid \& chunk tuna} = \frac{\text{Weight of Solid \& Chunk tuna}}{\text{Total Weight of drained tuna}} \times 100\%$$

- (iii) Calculate the weight of solid tuna retained on the screen by difference and express as a % of the total drained weight of the tuna.

$$\% \text{ solid tuna} = \frac{\text{Weight of solid tuna}}{\text{Total weight of drained tuna}} \times 100\%$$

8. CLASSIFICATION OF DEFECTIVES

A sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter which has not been derived from tuna, is readily detectable without magnification and does not pose a threat to human health.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

- (i) Excessively mushy flesh uncharacteristic of the species in the presentation; or
- (ii) Excessively tough flesh uncharacteristic of the species in the presentation; or
- (iii) Honey-combed flesh in excess of 5% of the drained contents.

8.4 Discolouration

A sample unit affected by distinct discolouration indicative of decomposition or rancidity or by sulphide staining of the meat exceeding 5% of the drained contents.

8.5 Objectionable Matter

- (i) A sample unit affected by struvite crystals greater than 5 mm in length;
- (ii) Other objectionable matter - scales, skin, soft bones and viscera in excess of [2] % of the drained weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the presentation and colour designation as defined in section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (iii) the average net weight and the average drained weight of all sample units examined is not less than the declared weight, and provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

ANNEX "A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external examination of the can exterior for the presence of container integrity defects or can ends which may be distorted outwards.
2. Open can and complete weight determination according to defined procedures in Sections 7.3 and 7.4.
3. Examine the product for discolouration.
4. Carefully remove the product and determine the presentation according to the defined procedures in Section 7.5.
5. Examine product for discoloration, foreign matter and struvite crystals. The presence of a hard bone is an indicator of underprocessing and will require an evaluation for sterility.
6. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

ALINORM 93/18
APPENDIX X

CODEX STANDARD FOR CANNED FINFISH
CODEX STAN 119-1981 REVISED

1. SCOPE

This standard applies to canned finfish. It does not apply to speciality products where the canned finfish constitutes less than 50% m/m of the net contents of the can or to canned finfish covered by other Codex product standards.

2. DESCRIPTION

2.1 Product Definition

Canned finfish is the product produced from the flesh of any species of finfish other than canned finfish covered by other Codex product standards which is suitable for human consumption and may contain a mixture of species, with similar sensory properties, from within the same genus.

2.2 Process Definition

Canned finfish are packed in hermetically sealed containers and shall have received a processing treatment sufficient to ensure commercial sterility.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

- (i) meets all requirements of this standard; and
- (ii) is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Fish

The product shall be prepared from sound finfish from which the heads, tails and viscera have been removed. The raw material shall be of a quality fit to be sold fresh for human consumption.

3.2 Other Ingredients

The packing medium and all other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.3 Final Product

Defects and tolerances for final product requirements described in 3.3.1 to 3.3.4 are described in Section 8 of this Standard.

3.3.1 Appearance

Canned finfish shall be reasonably free from objectionable discolourations.

3.3.2 Odour and Flavour

Canned finfish shall be free from objectionable odours and flavours.

3.3.3 Texture

Canned finfish shall be free from objectionable textural characteristics.

3.3.4 Foreign and Objectionable Matter

Canned finfish shall be free from foreign matter, and practically free from struvite crystals and other objectionable matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted for species of the genera *Scomber* and *Rastralliger* of the family *Scombridae* and of the genera *Trachurus* and *Decapterus* of the family *Carangidae*.

<u>Additive</u>	<u>Maximum level in the packing medium</u>
<u>Thickening of jellifying agents</u> (for use in packing medium only):	
- sodium carboxymethylcellulose (CMC)	2.5 g/kg)
- Pectins ¹	2.5 g/kg)
- Agar agar))
- Carrageenan))
- Guar gum))
- Carob bean gum )	) 20 g/kg) 20g/kg
- Tragacanth gum )	) combination) (total)
- Alginic acid as))
calcium, potassium,))
sodium salts))
- Xanthan gum))
 <u>Additive</u>	
<u>Modified Starches (Chemically)</u>	
- Acid-treated starches (including))
white and yellow dextrans)))
- Alkali-treated starches))
- Bleached starches))
- Distarch adipate, acetylated))
- Distarch glycerol))
- Distarch glycerol, acetylated )	) Singly or in
- Distarch glycerol, hydroxypropyl )	) combination
- Distarch phosphate )	) 60 g/kg
- Distarch phosphate, acetylated))
- Distarch phosphate, hydroxypropyl))
- Monostarch phosphate))
- Oxidized starch))
- Starch acetate))
- Starch, hydroxypropyl))
 <u>Acidifying Agents</u>	
- Acetic acid )	) Limited by Good
- Citric acid )	) Manufacturing
- Lactic acid )	) Practices

¹ Temporarily endorsed.

<u>Natural Flavours</u> , e.g.	) Limited by GMP
- Spice oils)
- Spice extracts)
<u>Smoke Flavours</u>	) Limited by GMP
(natural smoke solutions and their extracts) ²)

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination by the Codex Alimentarius Commission (CAC), the product:

- (i) shall be free from micro-organisms capable of development under normal conditions of storage; and
- (ii) no sample unit shall contain histamine that exceeds [20 mg per 100 g]; and
- (iii) shall not contain any other substance including substances derived from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the CAC; and
- (iv) shall be free from container integrity defects which may compromise the hermetic seal.

5.3 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the following codes:

- (i) the appropriate sections of the Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 1);
- (ii) The Recommended International Code of Practice for Canned Fish (CAC/RCP 10-1976);
- (iii) the Recommended Code of Hygienic Practice for Low Acid and Acidified Low-Acid Canned Foods (CAC/RCP 26-1979).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985), the following specific provisions apply.

6.1 Name of the Food

6.1.1 The name of the product declared on the label shall be the common or usual name applied to the species in accordance with the law and custom of the country in which the product is sold, and in a manner not to mislead the consumer.

6.1.2 The name of the product shall be qualified by a term descriptive of the presentation.

6.1.3 The name of the packing medium shall form part of the name of the food.

² Temporarily endorsed.

6.1.4 Where mixed species of the same genus are used, they should be indicated on the label.

6.1.5 In addition, the label shall include other descriptive terms that will avoid misleading or confusing the consumer.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the final product as prescribed in Section 3.3 shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (1969) (AQL-6.5) (Ref. CAC/RM 42-1969);
- (ii) Sampling of lots for examination of net weight and drained weight where or appropriate shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight.

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with Sections 7.3 through 7.5, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

The net weight of all sample units shall be determined by the following procedure:

- (i) Weigh the unopened container;
- (ii) Open the container and remove the contents;
- (iii) Weigh the empty container, (including the end) after removing excess liquid and adhering meat;
- (iv) Subtract the weight of the empty container from the weight of the unopened container. The resultant figure will be the net content.

7.4 Determination of Drained Weight

The drained weight of all sample units shall be determined by the following procedure:

- (i) Maintain the container at a temperature between 20°C and 30°C for a minimum of 12 hours prior to examination;
- (ii) Open and tilt the container to distribute the contents on a pre-weighed circular sieve which consists of wire mesh with square openings of 2.8 mm x 2.8 mm;
- (iii) Incline the sieve at an angle of approximately 17-20° and allow the fish to drain for two minutes, measured from the time the product is poured into the sieve;
- (iv) Weigh the sieve containing the drained fish;
- (v) The weight of drained fish is obtained by subtracting the weight of the sieve from the weight of the sieve and drained product.

7.5 Procedure for Packs in Sauces (washed drained weight)

- (i) See 7.4 (i);
- (ii) Open and tilt the container and wash the covering sauce and then the full contents with hot tap water (approx. 40°C), using a wash bottle (e.g. plastic) on the tared circular sieve;
- (iii) Wash the contents of the sieve with hot water until free of adhering sauce; where necessary separate optional ingredients (spices, vegetables, fruits) with pincers. Incline the sieve at an angle of approximately 17-20° and allow the fish to drain two minutes, measured from the time the washing procedure has finished;
- (iv) Remove adhering water from the bottom of the sieve by use of paper towel. Weigh the sieve containing the washed drained fish;
- (v) The washed drained weight is obtained by subtracting the weight of the sieve from the weight of the sieve and drained product.

8. CLASSIFICATION OF DEFECTIVES

A sample unit will be considered defective when it fails to meet any of the following final product requirements referred to in Section 3.3.

8.1 Foreign Matter

The presence in the sample unit of any matter, which has not been derived from finfish, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practice.

8.2 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity.

8.3 Texture

- (i) Excessive mushy flesh uncharacteristic of the species in the presentation; or
- (ii) Excessively tough flesh uncharacteristic of the species in the presentation; or
- (iii) Honey combed flesh in excess of 5% of the drained contents.

8.4 Discolouration

A sample unit affected by distinct discolouration of the flesh indicative of decomposition or rancidity or by sulphide staining of more than 5% of the drained contents.

8.5 Objectionable Matter

A sample unit affected by:

- (i) struvite crystals - any struvite crystal greater than 5 mm in length; or

- (ii) other objectionable matter - any combination of heads, head parts, tails, scales and viscera which exceed 2% of the drained weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the presentation defined in 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (iii) the average net weight and the average drained weight of all sample units examined is not less than the declared weight, and provided there is nonreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Handling and Labelling requirements of Sections 4, 5, and 6 are met.

ANNEX "A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete external can examination for the presence of container integrity defects or can ends which may be distorted outwards.
2. Open can and complete weight determination according to defined procedures in Sections 7.3, 7.4 and 7.5.
3. Examine the product for the form of presentation.
4. Examine product for discoloration, foreign and objectionable matter. The presence of a hard bone is an indicator of underprocessing and will require an evaluation for sterility.
5. Assess odour, flavour and texture in accordance with the "Code of Practice for Sensory Examination" (under development).

ALINORM 93/18
APPENDIX XI

CODEX STANDARD FOR QUICK FROZEN SHRIMPS OR PRAWNS
CODEX STAN 92-1981

1. SCOPE

This standard applies to quick frozen raw or partially or fully cooked shrimps or prawns.¹ It does not apply to speciality products where shrimp constitute less than 50% m/m of the contents.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Quick frozen shrimp is the product obtained from species of the following families:

- (a) *Penaeidae*
- (b) *Pandalidae*
- (c) *Crangonidae*
- (d) *Palaemonidae*

2.1.2 The pack shall not contain a mixture of genera but may contain a mixture of species of the same genus which have similar sensory properties.

2.2 Process Definition

The water used for cooking shall be of potable quality or clean seawater.

The product, after any suitable preparation, shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Quick frozen shrimps shall be processed and packaged so as to minimize dehydration and oxidation.

2.3 Presentation

2.3.1 Any presentation of the product shall be permitted provided that it:

2.3.1.1 meets all requirements of this standard; and

2.3.1.2 is adequately described on the label to avoid confusing or misleading the consumer.

2.3.2 The shrimp may be packed by count per unit of weight or per package.

¹ Hereafter referred to as shrimp.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Shrimp

Quick frozen shrimp shall be prepared from sound shrimp which are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

The water used for glazing or for preparing glazing solutions shall be of potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality".

3.3 Other Ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex Standards.

3.4 Final Product

Defects and Tolerances for final product requirements in 3.4.1 and 3.4.3 are described in Section 8 of this Standard. Products shall be examined by the methods given in Section 7.

3.4.1 Appearance

The final product shall be reasonably free from discolouration, deep dehydration and presentation defects.

3.4.2 Odour and Flavour

The shrimp shall be free from objectionable odours.

3.4.3 Foreign Matter

The final product shall be free from foreign matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

<u>Additive</u>	<u>Maximum level in the final product</u>
<u>pH Regulating Agents</u>	Limited by Good Manufacturing Practice
Citric acid	
Diphosphate, tetrasodium or tetrapotassium) Triphosphate, pentasodium or pentapotassium) (Na or K pyrophosphate)) (Na or K tripolyphosphates))	10 g/kg expressed as P ₂ O ₅ , singly or in combination (including natural phosphate)
<u>Antioxidant</u>	Limited by Good Manufacturing Practice
L-Ascorbic acid	
<u>Colours</u>	
Ponceau 4R, CI 16255	) 30 mg/kg singly or in) combination in heat) treated products only

Additive

Maximum level in
the final product

Preservatives

Metabisulphite, sodium or potassium
Sulphite, hydrogen, sodium
sodium

) 100 mg/kg in the
) edible part of Sulphite,
) the raw material
) 30 mg/kg in the
) edible part of the
) cooked product,
) expressed as SO₂;
) singly or in
) combination

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978);
- (iii) the Recommended International Code of Practice for Shrimp or Prawns (CAC/RCP 17-1978 and Supplement November 1989).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of the Food

The name of the product as declared on the label shall be "shrimps" or "prawns" according to the law, custom or practice in the country in which the product is to be distributed.

6.1.1 There shall appear on the label, reference to the presentation in close proximity to the name of the product in such descriptive terms that will adequately and fully describe the nature of the presentation of the product to avoid misleading or confusing the consumer.

6.1.2 In addition to the specified labelling designations above, the usual or common trade names of the variety may be added so long as it is not misleading to the consumer in the country in which the product will be distributed.

6.1.3 Products shall be designated as cooked, or partially cooked, or raw as appropriate.

6.1.4 The term "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.2 Net Contents (Glazed Products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL - 6.5) CAC/RM 42-1969. The sample unit is the primary container or for individually quick frozen products is at least a 1 kg portion of the sample unit;
- (ii) Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.3 through 7.6, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

7.3.1 Determination of Net Weight of Products not Covered by Glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze
(Alternate Methods)

- (1) As soon as the package is removed from frozen temperature storage, place the product in a container containing an amount of fresh potable water of 27°C (80°F) equal to 8 times the declared weight of the product. Leave the product in the water until all ice is melted. If the product is block frozen, turn block over several times during thawing. The point at which thawing is complete can be determined by gently probing the block apart.
- (2) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565) or alternatively 2.38 mm (U.S. No. 8 Standard Screen.)
 - (i) If the quantity of the total contents of the package is 500 g (1.1 lbs) or less, use a sieve with a diameter of 20 cm (8 inches);
 - (ii) If the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).
- (3) After all glaze that can be seen or felt has been removed and the shrimps or prawns separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.
- (4) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be part of the net content of the package.

7.4 Determination of Count

When declared on the label, the count of shrimp shall be determined by counting the numbers of whole shrimp in the container or a representative sample thereof and dividing the count of shrimp by the actual de-glazed weight to determine the count per unit weight.

7.5 Procedures for Thawing

The sample unit is thawed by enclosing it in a film type bag and immersing in water at room temperature (not greater than 35°C). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the shrimp, until no hard core or ice crystals are left.

7.6 Cooking Methods

The following procedures are based on heating the product to an internal temperature of >70°C. The product must not be overcooked. Cooking times vary according to the size of the product and the temperature used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-in-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used, check to ensure that no odour is imparted from the plastic bags. Cook according to equipment instructions.

8. CLASSIFICATION OF DEFECTIVES

The sample unit shall be considered as defective when it fails to meet any of the following final product requirements referred to in 3.4.

8.1 Deep Dehydration

Greater than 10% of the weight of the shrimp in the sample unit or greater than 10% of the surface area of the block exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the shrimp.

8.2 Foreign Matter

The presence in the sample unit of any matter which has not been derived from shrimp does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification, that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Odour and Flavour

Shrimp affected by persistent and distinct objectionable odours or flavours indicative of decomposition, rancidity or feed.

8.4 Discolouration

Distinct blackening or green or yellow discoloration, singly or in combination of more than 10% of the surface area of individual shrimp which affects more than 25% of the sample unit.

8.5 Presentation

Greater than 5% of the sample unit by thawed weight of shrimp not meeting the declared presentation.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the count designation as defined in Section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);

- (iii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen shrimp in the sample unit or the surface of the block for the presence of dehydration. Determine the percentage of shrimp or surface area affected.
3. Thaw using the procedure described in Section 7.5 and individually examine each shrimp in the sample unit for the presence of foreign matter and presentation defects. Determine the weight of shrimp affected by presentation defects.
4. Examine product for count declarations in accordance with procedures in Section 7.4.
5. Assess the shrimp for odour and discolouration as required.
6. In cases where a final decision regarding the odour/flavour cannot be made in the thawed state, a small portion of the sample unit (100 to 200 g) is prepared without delay for cooking and the odour/flavour confirmed by using one of the cooking methods defined in Section 7.6.

ALINORM 93/18
APPENDIX XII

CODEX STANDARD FOR QUICK FROZEN BLOCKS OF FISH FILLET,
MINCED FISH FLESH AND MIXTURES OF FILLETS AND MINCED FISH FLESH
BASED ON DRAFT FROM ALINORM 89/18, APPENDIX II

1. SCOPE

This Standard applies to quick frozen blocks of cohering fish flesh, prepared from fillets¹ or minced fish flesh or a mixture of fillets and minced fish flesh, which are intended for further processing.

2. DESCRIPTION

2.1 Product Definition

2.1.1 Quick frozen blocks are rectangular or other uniformly shaped masses of cohering fish fillets, minced fish or a mixture thereof, which are safe for human consumption, comprising

(i) a single species; or

(ii) a mixture of species with similar sensory characteristics.

2.1.1.1 Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets, with or without the skin.

2.1.1.2 Minced fish flesh used in the manufacture of blocks are particles of skeletal muscle which have been separated from and are essentially free from bones and skin.

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Industrial repacking or further processing of intermediate quick frozen material under controlled conditions which maintain the quality of the product followed by the reapplication of the quick freezing process is permitted.

These products shall be processed and packaged so as to minimize dehydration and oxidation.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

2.3.1 meets all requirements of this standard, and

¹ Including pieces of fillets.

2.3.2 is adequately described on the label to avoid confusion or misrepresentation.

2.3.3 Blocks may be presented as boneless, provided that boning has been completed including the removal of pin-bones.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Fish

Quick frozen blocks shall be prepared from fillets or minced flesh of sound fish which are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

If glazed, the water used for glazing or for preparing glazing solutions shall be of potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality".

3.3 Other Ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex standards.

3.4 Final Product

Defects and tolerances for final product requirements described in 3.4.1 and 3.4.2 are described in Section 8 of this Standard. Products shall be examined by the methods given in Section 7.

3.4.1 Appearance

The final product shall be reasonably free from deep dehydration.

3.4.2 Odour and Flavour

The product shall be free from objectionable odours and flavours.

3.4.3 Texture

The product shall be free from objectionable textural characteristics.

3.4.4 Foreign and Objectionable Matter

The final product shall be free from foreign matter and in packs designated boneless, bones, and reasonably free of parasites.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

4.1 Moisture/Water Retention Agents

	<u>Maximum Level in the final product</u>
Monophosphate, monosodium or monopotassium) (Monosodium or Monopotassium Orthophosphate))	10g/kg expressed as P ₂ O ₅ , singly or in combination (includes natural phosphate)
Diphosphate, tetrasodium or tetrapotassium) (Na, K, or Ca tripolyphosphate))	
Triphosphate, pentasodium or calcium) (Na, K or Ca tripolyphosphate))	
Polyphosphate, sodium (Na hexametaphosphate))	
Sodium alginate	
	5g/kg

4.2 Antioxidants

Ascorbic acid or its sodium or potassium salts	)	1g/kg, expressed as ascorbic acid,
Ascorbyl palmitate	)	singly or in combination

In addition, for Minced Fish Flesh only:

Citric acid or its sodium or potassium salts	)	1g/kg, expressed as citric acid,
	)	singly or in combination

4.3 Thickeners

Guar gum)	5g/kg singly or in combination
Carob bean (locust bean) gum)	
Pectins)	
Carboxymethyl cellulose, sodium salt)	
Xanthan gum)	
Carrageenan)	
Methyl Cellulose)	

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (ii) shall not contain any other substances in amounts which may represent a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978);
- (iii) the Recommended International Code of Practice for Minced Fish Prepared By Mechanical Separation (CAC/RCP 27-1983).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply;

6.1 The Name of The Food

6.1.1 The name of the food shall be declared as "x y blocks" in accordance with the law, custom or practice of the country in which the product is distributed, where "x" shall represent the common name(s) of the species packed and "y" shall represent the form of presentation of the block (see Section 2.3).

6.1.2 The name "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.1.3 The proportion of mince in excess of 10% of net fish content shall be declared stating the percentage ranges: 10-25, >25-35, etc. Blocks with more than 90% mince are regarded as mince blocks.

6.2 Net Contents (Glazed Blocks)

Where the food has been glazed, the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer, shall appear on the container.

However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling Plan for Fish Blocks

Sampling of lots for examination of the product shall be in accordance with the modified sampling plan defined below (paragraph 69, ALINORM 89/18). The sample unit is the entire block.

Lot Size (Number of blocks)	Sample Size (Number of blocks to be tested) (n)	Acceptance Number (c)
< 15	2	0
16 - 50	3	0
51 - 150	5	1
151 - 500	8	1
501 - 3200	13	2
3201 - 35000	20	3
> 35000	32	5

If the number of defective blocks in the sample is less than or equal to c, accept the lot; otherwise, reject the lot.

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Annex A and in accordance with the Code of Practice for Sensory Examination (under development).

7.3 Determination of Net Weight

7.3.1 Determination of Net Weight of Product Not Covered by Glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze

As soon as the package is removed from frozen temperature storage, open immediately and place the contents under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water [by the use of paper towel] and weigh the product.

An alternate method is outlined in Annex B.

7.4 Procedure for the Detection of Parasites (Type I Method)

The entire sample unit is examined non-destructively by placing appropriate portions of the thawed sample unit on a 5 mm thick acryl sheet with 45% translucency and candled with a light source giving 1500 lux 30 cm above the sheet. For skin-on fillets, the skin is not removed before examination.

Parasites may be detected using this candling procedure or by other visual non-destructive means.

7.5 Determination of Proportions of Fillet and Minced Fish in Quick Frozen Blocks prepared from Mixtures of Fillets and Minced Fish^{1 2}

According to the AOAC Method - "Physical Separation of Fillets and Minced Fish", AOAC 1988, 71, 206 (Type II).

7.6 Determination of Gelatinous Condition

[According to the AOAC Method - "Moisture in Meat and Meat Products of the AOAC"; AOAC 1990, 983.18.]

7.7 Cooking Methods

The following procedures are based on heating the product to an internal temperature of >70°C. The product must not be overcooked. Cooking times vary according to the size of the product and the temperatures used. The exact times and conditions of cooking for the products should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

¹ This method has been evaluated for cod only but, in principle, should be appropriate to other fish species or mixed species.

² This method is accurate for levels of mince greater than 10%.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-In-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used, check to ensure that no odour is imparted from the plastic bags. Cook according to equipment instructions.

8. CLASSIFICATION OF DEFECTS

The sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in 3.3.

8.1 Deep Dehydration

Greater than 10% of the surface area of the sample unit exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the block.

8.2 Foreign Matter

The presence in the sample unit of any matter which has not been derived from fish (excluding packing material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Parasites

The presence of two or more parasites per kg of the sample unit detected by a method described in 7.4 with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 10 mm in length.

8.4 Bones (In packs designated boneless)

One bone per kg greater or equal to 10mm in length, or greater or equal to 1 mm in diameter; a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm. The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

8.5 Odour and Flavour

A sample unit affected by persistent and distinct objectional odours or flavours indicative of decomposition or rancidity or of feed.

8.6 Texture

A sample unit affected by excessive gelatinous condition of the flesh together with greater than [86%] moisture found in any individual fillet.

A sample unit with pasty texture resulting from parasitic infestation affecting more than [5%] of the sample unit by weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defective sample units as classified according to section 8 does not exceed the acceptance number (c) of the sampling plan in Section 7; and
- (ii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- (iii) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen block for the presence of dehydration by measuring those areas which can only be removed with a knife or other sharp instrument. Measure the total surface area of the sample unit, and calculate the percentage affected.
3. Thaw and individually examine each block in the sample unit for the presence of foreign matter, bone where applicable, odour, and textural defects.
4. In cases where a final decision on odour can not be made in the thawed uncooked state, a small portion of the disputed material (approximately 200 g) is sectioned from the block and the odour and flavour confirmed without delay by using one of the cooking methods defined in Section 7.8.
5. In cases where a final decision on gelatinous condition cannot be made in the thawed uncooked state, the disputed material is sectioned from the block and the gelatinous condition confirmed by using the procedure in Section 7.7.

ANNEX B

DRAFT METHOD FOR THE DETERMINATION OF NET CONTENT
OF FROZEN FISH BLOCKS COVERED BY GLAZE

Glazing is not used for Q.F. blocks of white fish. Only Q.F. blocks of herring, mackerel and other brown (fat) fish are glazed, which are destined for further processing (canning, smoking). For such blocks the following procedure may be applicable (tested with block frozen shrimps).

1. Principle:

The pre-weighed glazed sample is immersed into a water bath by hand till all glaze is removed (as felt by fingers). As soon as the surface becomes rough, the still frozen sample is removed from the water bath and dried by use of a paper towel before estimating the net product content by repeated weighing. By this procedure thaw drip losses and/or re-freezing of adhering moisture can be avoided.

2. Equipment:

- Balance - sensitive to 0.1 g
- Water bath, preferably with adjustable temperature
- Circular sieve with a diameter of 20 cm and 1-3 mm mesh apertures (ISO R 565)
- Paper or cloth towels with smooth surface
- A freezed box should be available at the working place

3. Preparation of samples and water bath:

- The product temperature should be adjusted to -18/-20°C to achieve standard deglazing conditions (especially necessary if a standard deglazing period shall be defined in case of regular shaped products).
- After sampling from the low temperature store remove, if present, external ice crystals or snow from the package with the frozen product.
- The water bath shall contain an amount of fresh potable water equal to about 10 times of the declared weight of the product; the temperature should be adjusted on about 15°C to 35°C.

4. Determination of gross-weight "A":

After removal of the package, the weight of the glazed product is determined: In case of single fish fillets, single weights are recorded (A 1-A n). The weighed samples are placed intermediately into the freezer box.

5. Removal of glaze:

The pre-weighed samples/sub-samples are transferred into the water bath and kept immersed by hand. The product may be carefully agitated, till no more glaze can be felt by the finger-tips on the surface of the product: change from slippery to rough. Needed time, depending on size/shape and glaze content of the product, 10 to 60 sec. (and more in case of higher glaze contents or if frozen together).

For block-frozen products in consumer packs (also for single glaze products, which are frozen together during storage) the following (preliminary) procedure maybe applicable: The pre-weighed block or portion is transferred onto a suitable sized sieve and immersed into the water bath. By slight pressure of the

fingers separating deglazed portions are removed fractionally. Short immersing is repeated, if glaze residues are still present.

6. Determination of net weight "B":

The deglazed sample/sub-sample, after removal of adhering water by use of a towel (without pressure) is immediately weighed. Single net-weights of sub-samples are summed up: B_1-n .

7. Determination of glaze-weight "C":

Gross-weight "A" - Net-weight "B" = Glaze-weight "C"

8. Calculation of percentage proportions:

% net content of the product
$$"F" = \frac{"B"}{"A"} \times 100$$

% glaze - related to the gross weight of product
$$"G" = \frac{"C"}{"A"} \times 100$$

% glaze - related to the net weight of product
$$"H" = \frac{"C"}{"B"} \times 100$$

ALINORM 93/18
APPENDIX XIII

CODEX STANDARD FOR QUICK FROZEN FISH STICKS (FISH FINGERS),
FISH PORTIONS AND FISH FILLETS - BREADED OR IN BATTER
BASED ON DRAFT APPEARING IN ALINORM 89/18, APPENDIX III

1. SCOPE

This Standard applies to quick frozen fish sticks (fish fingers) and fish portions cut from quick frozen fish flesh blocks, or formed from fish flesh, and to natural fish fillets, breaded or batter coatings, singly or in combination, raw or partially cooked and offered for direct human consumption without further industrial processing.

2. DESCRIPTION

2.1 Product Definition

2.1.1 A fish stick (fish finger) is the product including the coating weighing not less than 20 g and not more than 50 g shaped so that the length is not less than three times the greatest width. Each stick shall be not less than 10 mm thick.

2.1.2 A fish portion including the coating, other than products under 2.1.1, may be of any shape or size.

2.1.3 Fish sticks or portions may be prepared from a single species of fish or from a mixture of species with similar sensory properties.

2.1.4 Fillets are slices of fish of irregular size and shape which are removed from the carcass by cuts made parallel to the back bone and pieces of such fillets, with or without the skin.

2.2 Process Definition

The product after any suitable preparation shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reach -18°C or colder at the thermal centre after thermal stabilization.

The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Industrial repacking or further industrial processing of intermediate quick frozen material under controlled conditions which maintains the quality of the product, followed by the re-application of the quick freezing process, is permitted.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

2.3.1 meets all the requirements of the standard, and

2.3.2 is adequately described on the label to avoid confusing or misleading the consumer.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Material

3.1.1 Fish

Quick frozen breaded or battered fish sticks (fish fingers) breaded or battered fish portions and breaded or battered fillets shall be prepared from fish fillets or minced fish flesh, or mixtures thereof, of edible species which are of a quality such as to be sold fresh for human consumption.

3.1.2 Coating

The coating and all ingredients used therein shall be of food grade quality and conform to all applicable Codex standards.

3.1.3 Frying fat (oil)

A fat (oil) used in the cooking operation shall be suitable for human consumption and for the desired final product characteristic (see also Section 4).

3.2 Final Product

Defects and tolerances for final product requirements described in Sections 3.2.1 through 3.2.5 are described in Section 8 of this standard. Products shall be examined by the methods given in Section 7.

3.2.1 Percent Fish Core

The fish core shall be not less than 50% m/m.

3.2.2 Coating

The product shall be adequately covered by coating.

3.2.3 Odour and Flavour (Cooked State)

The product shall be free from objectionable odours and flavours.

3.2.4 Texture

The final product shall be free from objectionable textural characteristics.

3.2.5 Foreign and Objectionable Matter (Cooked State)

The final product shall be free from foreign matter and reasonably free from objectionable matter and where designated boneless, free from bones.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

4.1 Food Additives (for Fish Fillets and Minced Fish Flesh only)

<u>Additive</u>	<u>Maximum Level in Final Product</u>
4.1.1 <u>Moisture/Water Retention Agents</u>	
Monophosphate, monosodium or monopotassium)	10 g/kg expressed
(Monosodium or monopotassium orthophosphates)	as P ₂ O ₅ , singly
Diphosphate, tetrasodium or tetrapotassium)	or in combination

	(Na or K pyrophosphate) Triphosphate, pentasodium or pentapotassium or Calcium (Na, K or Ca tripolyphosphate) Sodium Alginate	) ) ) )	(Includes natural phosphate) 5 g/kg
4.1.2	<u>Antioxidants</u>		
	Ascorbic acid or its sodium or potassium salts Ascorbyl palmitate	) ) )	1 g/kg expressed as ascorbic acid, singly or in combination
4.2	<u>In addition, for Minced Fish Flesh Only</u>		
4.2.1	<u>Antioxidants</u>		
	Citric acid or its sodium or potassium salts	) )	1 g/kg singly or in combination
4.2.2	<u>Thickeners</u>		
	Guar Gum Carob bean (locust bean) gum Pectins Carboxymethyl cellulose, sodium salt Xanthan gum Carrageenan Methyl cellulose	) ) ) ) ) ) )	5 g/kg singly or in combination
4.3	<u>Food Additives for Breaded or Batter Coatings</u>		
4.3.1	<u>Leavening Agents</u>		
	Monocalcium phosphate Dicalcium phosphate Sodium aluminum phosphate Sodium acid pyrophosphate	) ) ) )	1 g/kg singly or in combination, expressed as P ₂ O ₅
	Sodium, potassium and ammonium carbonates Sodium, potassium and ammonium bicarbonates	) )	Limited by GMP
4.3.2	<u>Flavour Enhancers</u>		
	Monosodium glutamate Monopotassium glutamate	) )	Limited by GMP
4.3.3	<u>Acidifying Agents</u>		
	Lactic acid Citric acid or its sodium or potassium salts	) ) )	1 g/kg of the final product expressed as lactic or citric acid, as appropriate
4.3.4	<u>Colours</u>		
	Annatto Caramel (plain) B-Carotene B-apo-carotenal Paprika oleoresin	) ) ) ) ) )	20 mg/kg expressed as bixin Limited by GMP 100 mg/kg singly or in combination Limited by GMP

4.3.5 Thickeners

Guar Gum	}	
Carob bean (Locust bean) gum	}	
Carrageenan	}	
Xanthan gum	}	5 g/kg singly or in
Pectins	}	combination
Sodium alginate	}	
Hydroxypropyl cellulose	}	
Hydroxypropyl methyl cellulose	}	
Methylethylcellulose	}	
Sodium carboxymethylcellulose	}	
Methyl cellulose	}	

4.3.6 Emulsifiers

Monoglycerides of fatty acids	}	5 g/kg of the final
Lecithins	}	product singly or in
Mono and Diglycerides	}	combination

4.3.7 Modified Starches

Acid treated starches	}	
(including white and yellow dextrans)	}	
Alkali treated starches	}	
Bleached or oxidized starches	}	
Distarch adipate, acetylated	}	Limited by GMP
Distarch phosphate	}	
Distarch phosphate, acetylated	}	
Distarch phosphate, hydroxypropyl	}	
Distarch phosphate, phosphated	}	
Monostarch phosphate	}	
Starch acetate	}	
Starch, hydroxypropyl	}	

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978);

- (iii) the Code of Practice for Frozen Battered and/or Breaded Fishery Products (CAC/RCP 35-1985);
- (iv) the Recommended International Code of Practice for Minced Fish Prepared by Mechanical Separation (CAC/RCP 27-1983).

6. LABELLING

In addition to Sections 2, 3, 7 and 8 of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of the Food

6.1.1 The name of the food to be declared on the label shall be "breaded" and/or "battered", "fish sticks" (fish fingers), "fish portions", or "fillets" as appropriate or other specific names used in accordance with the law and custom of the country in which the food is sold and in a manner so as not to confuse or mislead the consumer.

6.1.2 The label shall include reference to the species or mixture of species.

6.1.3 In addition there shall appear on the label either the term "quick frozen" or the term "frozen" whichever is customarily used in the country in which the food is sold, to describe a product subjected to the freezing processes as defined in sub-section 2.2.

6.1.4 The label shall show whether the products are prepared from minced fish flesh, fish fillets or a mixture of both in accordance with the law and custom of the country in which the food is sold and in a manner so as not to confuse or mislead the consumer.

6.2 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.3 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address of the manufacturers or packer shall always appear on the container. However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSIS

7.1 Sampling

- (i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL - 6.5) CAC/RM 42-1969. For prepackaged goods the sample unit is the entire container. For products packed in bulk the sample unit is at least 1 kg of fish sticks (fish finger), fish portions or fillets;
- (ii) Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Determination of Net Weight

The net weight (exclusive of packaging material) is determined on each whole primary container of each sample representing a lot and shall be determined in the frozen state.

7.3 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.4 through 7.7, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.4 Estimation of Fish Core

The fish core is estimated according to A.O.A.C. Method 971.13 (15th Edition, 1990) or the method given in Annex C.

7.5 Estimation of Coating Defects

(To be developed).

7.6 Estimation of Proportion of Fish Fillets and Minced Fish Flesh

(Refer to Annex B).

7.7 Cooking Methods

The frozen sample shall be cooked prior to sensory assessment according to the cooking instructions on the package. When such instructions are not given, or equipment to cook the sample according to the instructions is not obtainable, the frozen sample shall be cooked according to the applicable method(s) given below:

Use procedure 976.16 of the A.O.A.C. (15th Edition 1990). It is based on heating product to an internal temperature of 70°C. Cooking times vary according to size of product and equipment used. If determining cooking time, cook extra samples, using a temperature measuring device to determine internal temperature.

8. CLASSIFICATION OF DEFECTIVES

The sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in 3.3.

8.1 Foreign Matter (Cooked State)

The presence in the sample unit of any matter which has not been derived from fish (excluding packing material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.2 Bones (Cooked State) (In packs designated boneless)

One bone per kg greater or equal to 10 mm in length, or greater or equal to 1 mm in diameter; a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm. The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

8.3 Odour and Flavour (Cooked State)

A sample unit affected by persistent and distinct objectionable odour and flavours indicative of decomposition, or rancidity or of feed.

8.4 Texture (Cooked State)

Objectionable textural characteristics such as gelatinous conditions of the fish core together with greater than [86%] moisture or pasty.

8.5 [Coating]

Fish sticks (fish fingers), portions or fillets with less than [75%] of the surface covered with breading and/or batter.]

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (ii) the average percent fish flesh of all sample units is not less than 50% of the frozen weight;
- (iii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

The sample used for sensory evaluation should not be the same as that used for other examinations.

1. Complete net weight determination, according to defined procedures in Section 7.2 and coating defects according to Section 7.5.
2. Complete fish core determination on one set of the sample units according to defined procedures in Section 7.4.
3. Complete the estimation of the proportion of fillets and minced flesh, if required.
4. Cook the other set of sample units and examine for odour, flavour, texture, foreign matter, and bones.

"ANNEX C"

ESTIMATION OF FISH CORE

[Alternative WEFTA-Method
Reference: Bon. J. Brunner K.K. and Aitken,
A. (1986) in J.A.O.A.C. 69(1), 75-79

1. Principle

The just pre-thawed coating is scraped and removed from the fish core, which must remain frozen during the procedure, with a suitable spatula/knife. The optimal time is between 15 and 30 minutes after removal from frozen storage. The percentage of fish core weight is related both to the total weight of the coated products and the labelled net content of the pack.

2. Equipment

Balance, sensitive to 0.1g (preferably with tara compensation). Blade spatula or table knife, suitable for separating coating. Petri dishes, aluminium foil trays or watch glasses of suitable size for the sample.

3. Preparation of samples

To achieve standard scraping conditions the product should preferably be adjusted to eg. -18°C.

4. Determination of Weight "A" of the Coated Portion

Take max. 5 portions at a time from frozen storage and determine the individual weights using numerically ordered dishes, and record the single weights A_{1-n}

The sampling may be so arranged, that the second series is pre-thawed, when the scraping of the first is concluded.

5. Removal of Coating

About 15 minutes after removal from frozen storage, until only the coating has become soft at room temperature, carefully scrape and remove breading and batter from the fish core with spatula/knife, removing material from narrow sides and ends in initial movements followed by removal from wide flat surfaces. The fish core must remain frozen during the procedure, which should be concluded within 30 minutes after sampling from frozen storage. (With new products the optimal start time for scraping is determined by a pre-test).

6. Determination of the fish core weight "B"

Re-weigh the fish cores immediately after decoating and record the single weights B_{1-n7}.

Calculation of "C" = Percentage of fish core content

Add up the sum of portion weights "ΣA" resp. fish core weights "ΣB" and calculate the percentage of fish core weight as follows:

$$\% C = \frac{\Sigma B}{\Sigma A} \times 100 \quad \text{or} \quad \frac{\Sigma B}{A_1} \times 100$$

For consumer packs, the fish core weight may also be related to the labelled net content A₁ of the unit.

7. The decoated fish core can be used for further defect investigations according to Section 7.5.]

"ANNEX B"

ESTIMATION OF PROPORTION OF FISH FILLETS AND MINCED FISH FLESH

[Method proposed by N. Antonacopoulos,
Federal Republic of Germany, collaboratively studied by
West European Fish Technologists Association (WEFTA)]

- a) Equipment
Balance, sensitive to 0.1g
circular sieve - 200 mm diameter, 2.5 or 2.8 mm mesh opening (ISO) soft rubber edge (or blunt) spatula, forks, suitable sized plates, water tight plastic bags.
- b) Preparation of Samples
Fish Portion/Sticks: Take as many portions as needed to provide a fish core sample of about 200g (2kg). If breaded and/or battered first strip coating according to the method described in Section 7.4.
- c) Determination of Weights "A" of the Frozen Fish Samples
Weight the single fish portions/decoated fish cores while they are still frozen. Smaller portions are combined to a sample sub-units of about 200g (eg. 10 fish stick cores of about 20g each). Record the weight "A" n of the sub-units. Place the pre-weighed sample sub-units into water tight bags.
- d) Thawing
Thaw the samples by immersing the bags into a gently agitated water bath of about 20°C, but not more than 35°C.
- e) Draining
After thawing has been completed (duration about 20-30 min.) take each sample unit, one at a time, and drain the exuded fluid (thaw drip) for 2 minutes on a pre-weighed circular sieve inclined at an angle of 17-20 degrees. Remove adhering drip from the bottom of the sieve by use of a paper towel when draining is completed.
- f) Determination of Weight "B" of the Drained Fish Sample and Weight "C" of the Thaw Drip
Determine the weight of the drained fish sample "B" = sieve plus fish minus sieve weight. The difference of "A" - "B" is the weight of exuded fluid = thaw drip.
- g) Separation
Place the drained fish core on a plate and separate the minced flesh from the fillet using a fork to hold the fillet flesh and a soft, rubber edge spatula to scrape off the minced flesh.]

ALINORM 93/18
APPENDIX XIV

CODEX STANDARD FOR QUICK FROZEN LOBSTERS
CODEX STAN 95-1981 REVISED

1. SCOPE

This Standard applies to quick frozen raw or cooked lobsters, rock lobsters, spiny lobsters and slipper lobsters.¹ It does not apply to speciality products where the lobster meat constitutes less than 50% m/m of the contents.

2. DESCRIPTION

2.1 Product Definition

2.1.1 The product is prepared from lobster from the genus *Homarus* of the family *Nephropidae* and from the families *Palinuridae* and *Scyllaridae*. It may also be prepared from *Nephrops norvegicus* provided it is presented as Norway lobster.

2.1.2 The pack shall not contain a mixture of species.

2.2 Process Definition

The water used for cooking shall be of potable quality or clean seawater.

The product, after any suitable preparation, shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Quick frozen lobsters shall be processed and packaged so as to minimize dehydration and oxidation.

2.3. Presentation

2.3.1 Any presentation of the product shall be permitted provided that it:

2.3.2.1 meets all requirements of this standard;

2.3.2.2 is adequately described on the label to avoid confusing or misleading the consumer.

2.3.2 The lobster may be packed by count per unit of weight or per package or within a stated weight range.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Lobsters

The product shall be prepared from sound lobsters which are of a quality fit to be sold fresh for human consumption.

¹ Hereafter referred to as lobster.

3.2 Glazing

The water used for glazing or for preparing glazing solutions shall be of a potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality".

3.3 Other Ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex Standards.

3.4 Final Product

Defects and Tolerances for final product requirements in 3.4.1 through 3.4.3 are described in Section 8 of this Standard. Products shall be examined by the methods given in Section 1.

3.4.1 Appearance

The final product shall be reasonably free from deep dehydration and discoloration.

3.4.2 Odour

The lobster shall be free from objectionable odours.

3.4.3 Foreign and Objectionable Matter

The final product shall be free from foreign matter and reasonably free from objectionable matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

Additive

Maximum level in
the final product

Moisture/Water Retention Agents

- | | |
|--|---|
| - Triphosphate, pentasodium or pentapotassium or calcium (Na, K or CA tripolyphosphates) |) 10 g/kg singly or in combination expressed as P ₂ O ₅ (includes natural phosphates) |
| - Polyphosphate, sodium (Na hexametaphosphate) |) |

Preservatives

- | | |
|---|---|
| - Sulphite, bisulphite or metabisulphite, sodium or potassium (for use in the raw product only) |) 100 mg SO ₂ /kg in the edible part of the <u>raw</u> product, or as 30mg SO ₂ /kg in the edible part of the <u>cooked</u> product, singly or in combination, expressed as SO ₂ |
|---|---|

Antioxidants

- | | |
|---|-------------------------------------|
| - Ascorbates, sodium or potassium salts | 0.1% m/m expressed as ascorbic acid |
|---|-------------------------------------|

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and
- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

- (i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);
- (ii) the Recommended International Code of Practice for Lobster (CAC/RCP 19-1978);

6. LABELLING

In addition to the provisions of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of the Food

The product shall be designated:

- (i) Lobster if derived from the genus *Homarus*;
- (ii) Rock Lobster, Spiny Lobster [or Crawfish] if derived from species of the family *Palinuridae*;
- (iii) Slipper Lobster, Bay Lobster or Sand Lobster if derived from species of the family *Scyllaridae*;
- (iv) Norway Lobster if derived from the species *Nephrops norvegicus*.

6.1.1 There shall appear on the label, reference to the form of presentation in close proximity to the name of the product in such descriptive terms that will adequately and fully describe the nature of the presentation of the product to avoid misleading or confusing the consumer.

6.1.2 In addition to the specified labelling designations above, the usual or common trade names of the variety may be added so long as it is not misleading to the consumer in the country in which the product will be distributed.

6.1.3 Products shall be designated as cooked or raw as appropriate.

6.1.4 The term "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.2 Net Contents (Glazed Products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address of the manufacturer or packer shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

7.1.1 Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL - 6.5) CAC/RM 42-1971.

7.1.1.1 Procedures for sampling shell-on lobster:

- (i) The sample unit size for the purpose of determining the number of sample units (n) is based on one whole, split or half lobster or lobster tail;
- (ii) Determine the total number of whole, split or half lobster or lobster tail (sample units in the lot) by multiplying the number of containers in the lot by the average number of lobsters in each container;
- (iii) The number of sample units (n) as determined in step (ii) are collected at random from the number of containers or cases identified according to the AQL 6.5 Sampling Plan.

7.1.1.2 Procedures for sampling shell-off lobster:

The sample unit is the primary container or for individually quick frozen products is at least a 1 kg. portion of the sample unit.

7.1.2 Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and using procedures elaborated in Sections 7.3 through 7.6, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

7.3.1 Determination of Net Weight of Products not Covered by Glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze
(Alternate Methods)

For shell on lobster:

- (i) As soon as the package is removed from frozen temperature storage, open immediately and place the contents under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water [by the use of paper towel] and weigh the product;
 - (ii) [The pre-weighed glazed sample is immersed into a water bath by hand, until all glaze is removed, which preferably can be felt by the fingers. As soon as the surface becomes rough, the still frozen sample is removed from the water bath and dried by use of a paper towel before estimating the net product content by second weighing. By this procedure thaw drip losses and/or re-freezing of adhering moisture can be avoided];
 - (iii) As soon as the package is removed from frozen temperature storage, place the product in a container containing an amount of fresh potable water of 27°C (80°F) equal to 8 times the declared weight of the product. Leave the product in the water until all ice is melted. If the product is block frozen, turn block over several times during thawing. The point at which thawing is complete can be determined by gently probing the block a part.
- (2) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565) or alternatively 2.38 mm (U.S. No. 8 Standard Screen.)
 - (i) If the quantity of the total contents of the package is 500 g (1.1 lbs) or less, use a sieve with a diameter of 20 cm (8 inches);
 - (ii) If the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).
 - (3) After all glaze that can be seen or felt has been removed and the shrimps or prawns separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.
 - (4) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be part of the net content of the package.

7.4 Determination of Weight and Count

(i) Count

The count is determined by counting all lobsters or tails in the sample unit and dividing the count of lobster by the actual de-glazed weight to determine the count per unit weight.

(ii) Weight

De-glaze the lobster or tails following the procedure in Section 7.3.2. The average weight of each lobster or tail in the sample unit is determined by the following formula:

$$\frac{\text{Weight of all lobsters or tails in sample unit}}{\text{Number of lobsters or tails in sample unit}} = \text{Average weight of of each lobster or tail}$$

7.5 Procedure for Thawing (CAC/RM 40-1971)

The sample unit is thawed by enclosing it in a film type bag and immersing in water at room temperature (not greater than 35%). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the lobster, until no hard core or ice crystals are left.

7.6 Cooking Methods

The following procedures are based on heating the product to an internal temperature of >70°C. The product must not be overcooked. Cooking times vary according to the size of the product and the temperature used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-in-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used check to ensure that no odour is imparted from the plastic bags. Cook according to equipment specifications.

8. CLASSIFICATION OF DEFECTIVES

The sample unit shall be considered as defective when it fails to meet any of the following final product requirements referred to in 3.4.

8.1 Deep Dehydration

Greater than 10% of the weight of the lobster in the sample unit or greater than 10% of the surface area of the block exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the lobster.

8.2 Foreign Matter

The presence in the sample unit of any matter which has not been derived from lobster, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Odour/Flavour

Lobster affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity, or feed.

8.4 Discolouration

Distinct blackening of more than 10% of the surface area of the shell of individual whole or half lobster, or in the case of tail meat and meat presentations distinct black, brown, green or yellow discolorations singly or in combination, of the meat affecting more than 10% of the declared weight.

8.5 Objectionable matter (Tails, tail meat or meat)

Any combination of shell, viscera or blood which exceeds 5% of the declared weight.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the total number of sample units not meeting the count or weight range designation as defined in section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL - 6.5) (CAC/RM 42-1969);
- (iii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any individual container;
- (iv) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen lobster for the presence of deep dehydration. Determine the percentage of lobster affected.
3. Thaw using the procedure described in Section 7.5 and individually examine each sample unit for the presence of foreign and objectionable matter.
4. Examine product count and weight declarations in accordance with procedures in Section 7.4.
5. Assess the lobster for odour and discoloration as required.
6. In cases where a final decision regarding the odour/flavour cannot be made in the thawed state, a small portion of the sample unit (100 to 200g) is prepared without delay for cooking and the odour/flavour confirmed by using one of the cooking methods defined in Section 7.6.

ALINORM 93/18
APPENDIX XV

CODEX STANDARD FOR
QUICK FROZEN FINFISH, UNEVISCERATED AND EVISCERATED
REFERENCE CODEX STAN 36-1981

1. SCOPE

This Standard shall apply to frozen finfish uneviscerated and eviscerated.

2. DESCRIPTION

2.1 Product Definition

Frozen finfish, with or without the head, from which the viscera or other organs may have been completely or partially removed.

2.2 Process Definition

The product, after any suitable preparation, shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached -18°C or colder at the thermal centre after thermal stabilization. The product shall be maintained under conditions that will maintain the quality during transportation, storage and distribution.

Industrial repacking of quick frozen products under controlled conditions which maintain the quality of the products followed by the reapplication of the quick freezing process is permitted.

Quick frozen finfish, shall be processed and packaged so as to minimize dehydration and oxidation.

2.3 Presentation

Any presentation of the product shall be permitted provided that it:

2.3.1 meets all requirements of this standard; and

2.3.2 is adequately described on the label to avoid confusion or misrepresentation.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Fish

Quick frozen finfish shall be prepared from sound fish which are of a quality fit to be sold fresh for human consumption.

3.2 Glazing

If glazed, the water used for glazing or for preparing glazing solutions shall be of potable quality. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality".

3.3 Other Ingredients

All other ingredients used shall be of food grade quality and conform to all applicable Codex Standards.

3.4 Final Product

Defects and tolerances for final product requirements in 3.4.1 and 3.4.4 are described in Section 8 of this Standard. Products shall be examined by the methods given in Section 7.

3.4.1 Appearance

The final product shall be reasonably free from deep dehydration. In the thawed state it shall be free from foreign matter. Uneviscerated fish, shall be free from viscera belly burst.

3.4.2 Odour and Flavour

The product shall be free from objectionable odours and flavours.

3.4.3 Texture

The product shall be free from objectional textural characteristics.

3.4.4 Foreign Matter

The final product shall be free from foreign matter.

4. FOOD ADDITIVES

Only the use of the following additives is permitted.

<u>Additive</u>	<u>Maximum Level in Final Product</u>
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[Antioxidant]

5. HYGIENE AND HANDLING

5.1 The final product shall be free from any foreign material, that poses a threat to human health.

5.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

(i) shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission; and

(ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

5.3 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the following Codes:

(i) the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1985, Rev. 2);

- (ii) the Recommended International Code of Practice for Frozen Fish (CAC/RCP 16-1978).

6. LABELLING

In addition to the provisions of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985) the following specific provisions apply:

6.1 The Name of the Food

6.1.1 In addition to the common or usual name of the species, the label, in the case of eviscerated fish, shall include terms indicating that the fish has been eviscerated and whether presented as "head-on" or "headless".

6.1.2 The term "quick frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with subsection 2.2 of this standard.

6.2 Net Contents (Glazed Products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

6.3 Storage Instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C or colder.

6.4 Labelling of Non-Retail Containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. SAMPLING, EXAMINATION AND ANALYSES

7.1 Sampling

- (i) Sampling of lots for examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL - 6.5) CAC/RM 42-1971. A sample unit is the individual fish or the primary container.
- (ii) Sampling of lots for examination of net weight shall be carried out in accordance with the FAO/WHO Sampling Plans for the Determination of Net Weight (under elaboration).

7.2 Sensory and Physical Examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in Sections 7.3, 7.4 and 7.5, Annex A and the "Code of Practice for Sensory Examination" (under development).

7.3 Determination of Net Weight

7.3.1 Determination of net weight of Products not Covered by Glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

7.3.2 Determination of Net Weight of Products Covered by Glaze

As soon as the sample unit is removed from frozen storage, open immediately and place the contents under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water [by the use of paper towel] and weigh the product.

7.4 Thawing

(To be elaborated).

7.5 Cooking Methods

The following procedures are based on heating the product to an internal temperature of $>70^{\circ}\text{C}$. The product must not be overcooked. Cooking times vary according to the size of the product and the temperatures used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-In-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used, check to ensure that no odour is imparted from the plastic bags. Cook according to equipment specifications.

8. CLASSIFICATION OF DEFECTIVES

The sample unit shall be considered defective when it fails to meet any of the following final product requirements referred to in 3.4.

8.1 Deep Dehydration

Greater than 10% of the surface area of the block or greater than 10% of the weight of fish in the sample unit exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the fish.

8.2 Foreign Matter

The presence in the sample unit of any matter which has not been derived from fish (excluding packaging material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification, that indicates non-compliance with good manufacturing and sanitation practices.

8.3 Odour and Flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or of feed.

8.4 Texture

Textural breakdown of the flesh, indicative of decomposition characterized by muscle structure which is mushy or paste-like, or by separation of flesh from the bones.

8.5 Belly Burst

The presence of ruptured bellies in uneviscerated fish, indicative of decomposition.

9. LOT ACCEPTANCE

A lot shall be considered as meeting the requirements of this standard when:

- (i) the total number of defectives as classified according to section 8 does not exceed the acceptance number (c) of the appropriate sampling plan in the Sampling Plans for Prepackaged Foods (AQL-6.5) (CAC/RM 42-1969);
- (ii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- (iii) the Food Additive, Hygiene and Labelling requirements of Sections 4, 5.1, 5.2 and 6 are met.

"ANNEX A"

SENSORY AND PHYSICAL EXAMINATION

1. Complete net weight determination, according to defined procedures in Section 7.3 (de-glaze as required).
2. Examine the frozen sample unit for the presence of deep dehydration by measuring those areas or counting instances which can only be removed with a knife or other sharp instrument. Measure the total surface area of the sample unit, and calculate the percentage affected.
3. Thaw and individually examine each fish in the sample unit for the presence of foreign matter.
4. Examine each fish using the criteria outlined in Section 8. Flesh odours are examined by tearing or making a cut across the back of the neck such that the exposed surface of the flesh can be evaluated.
5. In cases where a final decision regarding the odour or texture can not be made in the thawed uncooked state, a small portion of the flesh (approximately 200 g) is sectioned from the product and the odour, flavour or texture confirmed without delay by using one of the cooking methods defined in Section 7.5.

THAWING PROCEDURE FOR QUICK FROZEN FISH BLOCKS (Proposed by the United States)

Air Thaw Method:

Frozen fish blocks are removed from the packaging. The frozen fish blocks are individually placed into snug fitting impermeable plastic bags or a humidity controlled environment with a relative humidity of at least 80%. Remove as much air as possible from the bags and seal. The frozen fish blocks sealed in plastic bags are placed on individual trays and thawed at air temperature of 25°C (77°F) or lower. Thawing is completed when the product can be readily separated without tearing. Internal block temperature should not exceed 7°C (45°F).

Water Immersion Method:

Frozen fish blocks are removed from the packaging. The frozen fish blocks are individually placed into impermeable plastic bags. Remove as much air as possible from the bags and seal. The frozen fish blocks are placed into a circulating water bath with temperatures maintained at 21°C \pm 1.5°C (69.8°F \pm 3.7°F). Thawing is completed when the product can be easily separated without tearing. Internal block temperature should not exceed 7°C (45°F).

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APPENDIX XVI

DRAFT PROCEDURE FOR THE DETERMINATION OF DRAINED WEIGHT OF CANNED SHRIMPS AND PRAWNS IN GELLED MEDIA (Method proposed by Germany)

The content of a can is transferred quantitatively into a pre-weighed dish. This is placed into a drying oven, adjusted to 80°C, till the jelly is completely liquidized (time needed depending on pack size: 30-40 min.; product temperature approx. 40°C). The content is immediately placed into a standard sieve and drained as described in para. 8.4.2. (1). If necessary, additionally wash with hot water (40°C) as described in para. 8.4.3 (1).

- (1) *Reference: Determination of drained weight and washed weight of mackerel or jack mackerel in relation to water capacity of the container (Codex Stan 119-1981).*

PROPOSED METHODS FOR THE DETERMINATION OF DRAINED WEIGHT OF CANNED SHRIMPS AND PRAWNS IN GELLED MEDIA (Method proposed by the United Kingdom)

The drained weight of all sample units shall be determined by the following method.

1. The specification for the sieve is given in Codex Stan 37-1981 Section 8.4.2.
2. Suspend the opened can in a water bath maintained at 45°C until the gelled medium has liquefied. The time taken will depend on the can size. The can should not be agitated.
3. Empty the contents of the container on to a tared sieve. Gently wash the contents with water at approx. 45°C until any adhering gel has been removed. Incline the sieve at an angle of approximately 17°-20° and allow the shrimps or prawns to drain for 2 minutes, measured from the time the washing procedure has stopped.
4. Remove adhering water from the bottom of the sieve by use of a paper towel. Weigh the sieve containing drained shrimps or prawns.
5. The percentage m/m drained shrimps or prawns is given by the following equation:

$$\frac{m_2 - m_1}{m_w} \times 100$$

where m_1 = mass of sieve
 m_2 = mass of the sieve plus drained contents
 m_w = water capacity of the container*

* The procedure for determining the water capacity of the container is given in Codex Stan 37-1981 Section 8.8.