

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



JOINT OFFICE: Viale delle Terme di Caracalla 00153 ROME Tel: 39 06 57051 www.codexalimentarius.net Email: codex@fao.org Facsimile: 39 06 5705 4593

ALINORM 09/32/17

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

Thirty-second Session
Rome, Italy, 29 June- 4 July 2009

REPORT OF THE TWENTY-FIRST SESSION OF THE CODEX COMMITTEE ON FATS AND OILS

Kota Kinabalu, Malaysia
16-20 February 2009

Note: This document incorporates Codex Circular Letter CL 2009/6-FO

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CX 5/15.2

CL 2009/6-FO
March 2009

TO: - Codex Contact Points
- Interested International Organizations

FROM: -Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, 00153 Rome, Italy

SUBJECT: Distribution of the Report of the 21st Session of the Codex Committee on Fats and Oils (ALINORM 09/32/17)

A. MATTERS FOR ADOPTION BY THE 32nd SESSION OF THE CODEX ALIMENTARIUS COMMISSION

Draft Standard at Step 8 of the Procedure

1. Draft Amendment to the Standard for Named Vegetable Oil: Inclusion of Rice Bran Oil (para. 30, Appendix II)

Governments wishing to propose amendments or comments on the above documents should do so in writing in conformity with the Guide to the Consideration of Standards at Step 8 (see Procedural Manual of the Codex Alimentarius Commission) to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, at the above address, preferably by E-mail, **before 30 April 2009**.

Proposed Draft Amendment at Step 5 to the Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk

2. Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes (para. 55, Appendix III)

Proposed Draft Standard at Step 5 of the Procedure

3. Proposed Draft Amendment to the Standard for Named Vegetable Oil: Inclusion of Palm Kernel Olein and Palm Kernel Stearin (para. 85, Appendix IV)

Governments wishing to submit comments on the implications which the Proposed Draft Amendments in points 2 and 3 may have for their economic interests should do so in writing in conformity with the Procedure for the Elaboration of World-wide Standards at Step 5 to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, at the above address **before 30 April 2009**.

B. REQUEST FOR COMMENTS AND INFORMATION

Proposed Draft List of Acceptable Previous Cargoes in the Code for the Storage and Transport of Edible Fats and Oils in Bulk

4. Proposed Draft List of Acceptable Previous Cargoes in the Code for the Storage and Transport of Edible Fats and Oils in Bulk (para. 71, Appendix V)

Comments are also requested on mechanisms and procedures that could be used to apply the criteria mentioned in point 2. above to assess the acceptability of substances as previous cargoes using the *Working Principles for Risk Analysis*, as mentioned in Paragraph 72 of the present report.

Standard for Olive Oils and Olive Pomace Oil: Proposed Draft Amendment

5. Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils: level of linolenic acid (para. 96, Appendix VI)

Governments and international organizations wishing to submit comments on points 4. and 5. above should do so in writing to the Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, at the above address, preferably by E-mail, **before 1 December 2009.**

SUMMARY AND CONCLUSIONS

The summary and conclusions of the 21st Session of the Codex Committee on Fats and Oils are as follows:

Matters for adoption by the Commission:

The Committee:

- agreed to advance to Step 8 the Draft Amendment to the Standard for Named Vegetable Oil: Inclusion of Rice Bran Oil (para. 30, Appendix II);
- agreed to advance to Step 5 the Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes (para. 55, Appendix III);
- agreed to advance to Step 5 the Proposed Draft Amendment to the Standard for Named Vegetable Oil: Inclusion of Palm Kernel Olein and Palm Kernel Stearin (para. 85, Appendix IV);
- agreed to propose to discontinue work on the amendment to the Standard for Named Vegetable Oils on total carotenoids in unbleached palm oil (para. 78);
- agreed to propose a revised list of additives in the standards for fats and oils for endorsement by the Committee on Food Additives and adoption by the Commission (para. 23, Appendix VII);
- agreed to request the Commission to approve the amendment to the section on Contaminants in the Standard for Named Vegetable Oils to replace it with the standard language in the *Format for Codex Commodity Standards* (para. 82).

Other Matters of Interest to the Commission

The Committee:

- agreed to retain at Step 7 the Draft List of Acceptable Previous Cargoes and to return to Step 3 the Proposed Draft List of Acceptable Previous Cargoes for comments and consideration at the next session (para. 71 and 75, Appendix V);
- agreed to return to Step 3 the Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils on the level of linolenic acid and related footnote (para. 96, Appendix VI);
- agreed not to consider further the proposal for future work on the composition and naming of fatty acid modified vegetable oils (para.. 105).

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INTRODUCTION

1. The 21st Session of the Codex Committee on Fats and Oils (CCFO) was held in Kota Kinabalu from 16-20 February 2009 at the kind invitation of the Government of Malaysia. The Session was chaired by Ms Noraini Mohd. Othman, Director, Food Safety and Quality Division, Department of Public Health, Ministry of Health. It was attended by 103 participants from 37 Member countries, one Member organization and 5 international organizations. The List of Participants is attached to this report as Appendix I.

2. The session was opened by the Chairperson. In her opening remarks, the Chairperson welcomed the participants. She commended the contribution of the Government of the United Kingdom as the previous host country of this Committee and thanked the Codex Members for their support in nominating Malaysia as the new host country. She indicated the strong commitment of Malaysia to fulfill the responsibility of the host country.

Division of Competence¹

3. The Committee noted the division of competence between the European Community and its Member States, according to paragraph 5, Rule II of the Procedure of the Codex Alimentarius Commission, as presented in CRD 1.

ADOPTION OF THE AGENDA (Agenda Item 1)²

4. In addition to the proposal of Syria already included in the provisional agenda, the Committee agreed to consider the following items under Agenda Item 9 “Other business and future work”:

- Proposal for technical amendment of Standard for Named Vegetable Oils: update of variety of rapeseed oil – low erucic acid (proposed by Canada);
- Proposal for new work on a Codex Standard for Fish Oils (proposed by Switzerland);
- Proposal for the Revision of the Codex Standard for Named Vegetable Oils: sunflower seed oils (proposed by Argentina); and
- Proposal for new work on low-linolenic acid, mid-oleic acid and high oleic acid soybean oils for inclusion in the Standard for Named Vegetable Oils (proposed by the United States of America)

5. With this modification, the Committee adopted the provisional agenda as the agenda for this session.

6. The Committee agreed to establish an in-session working group on food additives, led by the Delegation of the United States of America, with the Delegation of Canada serving as rapporteur, and working in English only, which would consider the matter referred by the 39th Session of the Committee on Food Additives (CCFA) with regard to provisions for annatto extracts and beta-carotenes in the *Standard for Fat Spreads and Blended Spreads* (CODEX STAN 256-2007)³ as well as provisions for annatto extracts in other Codex standard for fats and oils⁴. The Committee noted that the working group would also review food additive provisions in existing standard for fats and oils in the light of the revisions of the International Numbering System for food additives and evaluation by the Joint FAO/WHO Expert Committee on Food Additives (JECFA) from the viewpoint of consistency, if time allowed.

¹ CRD 1 (Division of competence between the European Community and its Member States according to Rule II, paragraph 5 of the Codex Alimentarius Commission)

² CX/FO 09/21/1; CX/FO 09/21/10 (proposal from Syria); CX/FO 09/21/11 (proposal from Canada); CRD 6 (proposal of Switzerland); CRD 7 (proposal of Argentina)

³ ALINORM 07/30/12, para. 70

⁴ ALINORM 07/30/12, Appendix IV

MATTERS ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES (Agenda Item 2)⁵

7. The Committee noted matters arising from the 30th Session of the Codex Alimentarius Commission and other Codex committees, as summarized in the working document. The Committee discussed in particular the following matters:

Strategic Plan 2008-2013 of the Codex Alimentarius Commission

8. As regards *Activity 3.3: Develop committee-specific decision-making and priority setting criteria*, while recalling that the 16th Session of the Committee had agreed on specific set of information to be required when the addition of new oils to the *Standard for Named Vegetable Oils* was proposed, it was noted that the information was generally covered by the subsequently developed and further revised format for project documents.

9. In this regard, the Chairperson drew the attention of the Committee to the fact that this information was already included in the *Guidelines on the Application of Criteria for the Establishment of Work Priorities Applicable to Commodities* agreed upon at the 60th Session of the Executive Committee and that project documents would be evaluated against these new Guidelines. With regard to taxonomic information on full details of all species of plant from which the oil is derived, this information should be included in the identity of the product.

10. In accordance with the decision of the Executive Committee, the Chairperson reminded the Committee that there should be significant trade volume to justify the development of new Codex standards on the revision of existing standards. The existing volume and pattern of trade, and trends between countries, intra-regional trade and inter-regional trade as well as international or regional market potential would determine whether a standard should be regional or international.

11. As regard *Activity 2.5: Encourage countries to channel their requests for scientific advice to FAO/WHO through the CAC*, the Committee appreciated the scientific advice so far provided by FAO and WHO and noted that it might request further scientific advice in the future because of the complexity of the work undertaken by the Committee.

Interval and Duration of Meetings

12. The Committee noted that the recommendation of the Commission with regard to Proposal 3 (interval of meetings) and Proposal 4 (duration of meetings) would be considered when discussing the date of its next session under Agenda Item 10.

Matters arising from the CCFA

13. The Committee considered the matters arising from the CCFA on the basis of the recommendations of the in-session Working Group on Food Additives as follows:

Standard for Fat Spreads and Blended Spreads

14. The Committee noted that the in-session Working Group recommended a maximum use level of 20 mg/kg (as bixin) for annatto extracts, bixin-based (INS 160b(i)), while some delegations had requested a level of 100 mg/kg based on the use levels reported in certain products of their countries.

15. The Delegation of the European Community supported the level of 20 mg/kg, as this level was consistent with the levels for annatto extracts for food category 02.2.2 (Fat spreads, dairy fat spreads and blended spreads) of the *General Standard for Food Additives* (GSFA, CODEX STAN 192-1995) and in the *Standard for Dairy Fat Spreads* (CODEX STAN 253-2006), which had been adopted by the 31st Session of the Commission.

⁵ CX/FO 09/21/2; CRD 2 (comments of the European Community); CRD 12 (Report of the in-session Working Group on Food Additives)

16. Several delegations supported the level of 100 mg/kg because in their view existence of the products with this use level indicated the technological need and suggested that whether this level was appropriate from the viewpoint of food safety be left for consideration by the Committee on Food Additives. It was noted that fat spreads and blended spreads could be produced from vegetable oils, which were usually less coloured than milk fats, and might require higher levels of colours to achieve the same technological effect. It was further noted that consumer preferences for coloured products vary among regions and that even if the maximum use level was set at a higher level, highly coloured products were unlikely to be widely marketed in a region with a different consumer preference.

17. In view of these observations, the Committee agreed with the level of 100 mg/kg. The Delegation of the European Community expressed its reservation on this decision.

18. The Committee agreed with the recommendation of the In-session Working Group to list beta-carotene (*Blakeslea trispora*) (160a(iii)) along with other carotenoids.

Annatto extracts

19. The Committee agreed that annatto extracts approved for use in the *Standards for Edible Fats and Oils not covered by Individual Standards* (CODEX STAN 19-1981) and *Named Animal Fats* (CODEX STAN 211-1999) should be bixin-based and confirmed the current maximum use levels.

Review of food additive provisions in standards for fats and oils

20. The Committee agreed with the recommendations of the In-session Working Group to delete food additives that did not have ADIs established by JECFA and to update the INS numbers and food additive names in accordance with the *Class Names and the International Numbering System for Food Additives* (CAC/GL 36-1989) in *Standards for Fat Spreads and Blended Spreads, Named Vegetable Oils, Edible Fats and Oils not covered by Individual Standards, Named Animal Fats and Olive Oils and Olive Pomace Oils*. In particular, the Committee noted the following and agreed to make amendments accordingly:

- Among several tocopherols, three types of alpha-tocopherols (INS 307a, b, c) were included in the group ADI established by JECFA, while synthetic gamma- and delta-tocopherols were not included;
- Among three sodium citrates (INS 331(i), (ii), (iii)), disodium monohydrogen citrate has not been evaluated by the JECFA;
- Curcumin (INS 100(i)) had an ADI established by JECFA, while turmeric (INS 100(ii)) did not; and
- “Monoglyceride citrate” was covered by the specifications for citric and fatty acid esters of glycerol (INS 472c)

21. The Committee further agreed to change the maximum use levels for tocopherols from GMP to 300 mg/kg, in line with the draft provision for corresponding food categories in the GSFA, noting that a numeric ADI was allocated to tocopherols. The Delegation of the European Community expressed its reservation on this decision.

22. One delegation pointed out that certain oils naturally contained high levels of tocopherol and suggested adding a remark to indicate that the level in the food additive list did not take into account naturally occurring tocopherols. While noting that the purpose of this remark was to prevent confusion during the enforcement of the standard, the Committee agreed that the problem was not specific to tocopherols in vegetable oils but more of a generic nature and that numeric limits indicated in food additive lists were maximum “use” levels and this would be enough to prevent possible misinterpretation by enforcement bodies.

23. The Committee agreed to forward the above amendments to sections on food additives of standards for fats and oils to the 32nd Session of the Commission for adoption, subject to the endorsement by the Committee on Food Additives (see Appendix VII).

24. The Committee expressed its thanks and appreciations to Dr Keefe, as Chairperson of the Working Group, to Ms Twardek, as rapporteur, and to the members of the Working Group for their excellent work in facilitating consideration of additives issues in the Committee.

DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: INCLUSION OF RICE BRAN OIL (Agenda Item 3)⁶

25. The Committee recalled that its last session had returned the Draft Amendment to Step 6 for further comments on some values in square brackets and asked for more data, in particular the trade volume in the international market and more details on the characteristics and origin of the samples analysed. The Chairperson recalled the importance of providing relevant trade data in order to determine the need to establish a world-wide standard. In this regard, the Committee noted that specific export figures had been provided in CRD 9 from Thailand, and agreed to proceed with the consideration of the Draft Amendment section by section.

Section 2.1 Product Description

26. The Committee discussed the written comments of Mali, who was not present at the session. Some delegations supported the proposal from Mali to refer only to “rice bran oil”, as this was the correct description of the product, and to delete “rice oil”. Other delegations however pointed out that they also used the term “rice oil” and the Committee agreed to retain both terms. It was also agreed to retain the current text indicating that rice bran oil was “derived from the bran of rice”, in consistency with the wording used for other oils.

Section 3. Essential Composition and Quality Factors

27. In Table 1, the Committee noted a proposal to expand the composition range for C18:2 to 20-40 in order to make the standard more inclusive but as this level was not supported by data from rice bran oil samples, the initial values of 29 - 40 were retained. The Committee also confirmed the values of 14-23 for C16:0.

Annex 1 – section 4. Other Characteristics

28. In Table 3: levels of desmethylsterols, the Committee agreed to retain the value “ND”, noting that “ND” was defined in the note to Table 3 of the Standard for Named Vegetable Oils.

Methods of Analysis and Sampling

29. The Committee recalled that the Committee on Methods of Analysis and Sampling had endorsed the method in Annex 2 as Type IV as the method was not validated and, had encouraged the countries interested in the development of this method to complete validation studies.

Status of the Draft Amendment to the Standard for Named Vegetable Oils: Inclusion of Rice Bran Oil

30. The Committee agreed to advance the Draft Amendment to Step 8 for adoption by the 32nd Session of the Codex Alimentarius Commission (see Appendix II).

CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF FATS AND OILS IN BULK (Agenda Item 4)

PROPOSED DRAFT CRITERIA TO ASSESS THE ACCEPTABILITY OF SUBSTANCES FOR INCLUSION IN A LIST OF ACCEPTABLE PREVIOUS CARGOES (Agenda Item 4a)⁷

31. The Committee recalled that its last session had considered the conclusions and criteria put forward by the FAO/WHO Technical Meeting on the Development of Criteria for Acceptable Previous Cargoes and had agreed to circulate the Proposed Draft Criteria at Step 3 with a view to their integration into the Code of Practice.

32. The Representative of FAO recalled that these criteria had been developed by a group of independent experts convened as the *FAO/WHO Technical Meeting for the Development of Criteria for Acceptable Previous Cargoes for Fats and Oils, 7 – 9 November 2006* and that detailed results of the expert advice had been provided at the 20th Session of the CCFO. In response to written comments received, the Representative provided the following clarification to the Committee on the findings of the Technical

⁶ CL 2007/8-FO, ALINORM 07/31/17, Appendix V; CL 2008/32-FO; CX/FO 09/21/3 (comments of Brazil, Japan, Mali) ; CX/FO 09/21/3-Add.1 (Comments of Japan); CRD 9 (Comments of Thailand)

⁷ CL 2007/8-FO, ALINORM 07/21/17, Appendix III; CL 2008/32-FO; CX/FO 09/21/4 (comments of Australia, Brazil, Kenya, Mali, United States, FOSFA, FEDIOL); CX/FO 09/21/4-Add.1 (comments of Malaysia); CRD 3 (comments of Philippines)

Meeting.

Scope of the Technical Meeting

33. The scope of the Technical Meeting was to consider the safety implications for human health, of the presence of residues of previous cargoes in subsequent cargoes and a basis for the development of the proposed criteria. It was recognised that changes in quality (e.g. oxidation and hydrolysis) of edible fats and oils may occur during shipping, but they are covered by Codex quality provisions and anticipated by traders. The Committee was also advised that criteria had been developed for the transportation of previous cargoes of fats and oils by bulk shipment by sea.

Criterion 1

34. The criteria were developed by estimating a worst-case scenario of contamination of a fat or oil from a previous cargo. Fundamental to this approach was the assumption of adequate design and that good practices for handling, storing and cleaning are followed. In this regard, the *Codex Recommended International Code of Practice for the storage and Transport of Edible Fats and Oils in Bulk (CAC/RCP 36 – 1987)* is a very valuable instrument. However, where good practice is less well controlled or applied, significant contamination of the fat or oil from the previous cargo may occur, and under such (less rigorously controlled) conditions, criterion 2 becomes meaningless. Therefore, the first criterion provides a basis for the effectiveness of all four criteria.

Criterion 2

35. The Technical Meeting concluded that the ADI (or TDI) of the substance should be greater than or equal to 0.1 mg/kg bw/day (as opposed to “less than”). This resulted from the fact that for the derivation of this criterion the risk assessment process has been inverted and began with an estimation of what under rather strict conditions could be the highest possible exposure from any previous cargo. As mentioned above, the experts decided that the only practical way to decide if a substance is acceptable as a previous cargo should be generic, (due to the possible range of previous cargoes, tank designs, cleaning regimes, etc.), and assuming worst-case conditions.

36. The assessment of the maximum concentrations of previous cargoes in the subsequent shipload of edible fat or oil is an important part of the determination of criterion 2. The Technical Meeting first considered stainless steel tanks and agreed that residual amounts of previous cargoes would be in the range of 1 – 10 mg/kg, however to achieve a worst-case scenario, coated tanks were used to estimate the quantity of the previous cargo that could be present in the subsequent cargo of edible fats and oils. The main difference between the two tank types is the degree of absorption of the previous cargo being carried in coated tanks compared to much lower absorption in stainless steel tanks. The retained amount can lead to concentrations of 50 – 100 mg/kg in the subsequent cargo. Therefore, the Technical Meeting considered it appropriate to use the 100 mg/kg level of contamination as the upper estimate for any combination of tank type/previous and subsequent cargo.

37. Taking into account the WHO Global Environment Monitoring System (GEMS) Food Consumption Cluster Diets, the Technical Meeting estimated a dietary intake of 25g/day for one single type of fat/oil. However, to afford adequate protection for high fat intake consumers, and for the inevitably higher intake on a per kg body weight basis for children an additional safety factor was used. The Technical Meeting agreed that for the evaluation of previous cargoes, an ADI (or TDI) of 0.1 mg/kg bw/day would be the minimum requirement to provide sufficient protection for children and high-intake consumers. ADI (or TDI), as a measure of chronic intake, was used rather than an acute reference dose, as the possibility of repeated exposure to chemicals could not be ruled out. Where data is sufficient or no numerical ADI or (TDI) exists, substances should be dealt with on a case-by-case basis.

Criterion 3

38. The Meeting considered it unlikely that allergenic responses would occur resulting from contamination of a fat or oil by a previous cargo, but it was agreed that allergenic responses among sensitive individuals could not be ruled out. As allergenicity is rarely used as the basis for derivation of an ADI, the Technical Meeting proposed that this aspect should be covered separately. Furthermore, the Technical Meeting considered that fats and oils may be used in personal care products and that therefore both oral and dermal allergenicity of the previous cargo needed to be considered.

Criterion 4

39. The Technical Meeting considered that edible fats and oils are chemically quite inert under normal handling conditions. However, consideration must be given to the possibility that the chemical substance can react with edible fats and oils, and some reactions with triglyceride or fatty acid impurities in the fat or oil need to be evaluated on a toxicological basis. Any reaction products must comply with Criteria 2 and 3.

40. The Joint Secretary of JECFA at FAO explained briefly the main steps and factors considered by JECFA in the risk assessment process of a chemical present in food, and highlighted the importance of the availability of data to allow a full risk assessment to be carried out. In particular, in addition to the need for an adequate toxicological dossier and specifications of the material studied, the importance of provision of estimates of dietary exposure by the risk managers was highlighted. In this context, Criterion 2 would be considered as an estimate of dietary exposure as it was based on data on the level of contamination of the subsequent cargo.

41. The Committee considered the Proposed Draft Criteria in the light of the above explanations and the comments received, as follows:

Criterion 1

42. Some delegations expressed the view that the first criterion was not necessary as the current provisions of the Code already referred to the need for appropriate cleaning routines. Other delegations pointed out that this criterion was essential as the cleaning procedures were crucial in order to prevent contamination. The Representative of FAO highlighted the importance of good cleaning practices as a basis for the development of the criteria, as agreed by the Technical Meeting.

43. The Committee agreed to retain Criterion 1 with some amendments to clarify the text and reflect that the efficacy of cleaning between cargoes should be verified.

Criterion 2

44. Some delegations expressed the view that the requirement for a numerical ADI or TDI greater or equal to 0.1 mg/kg would exclude several substances currently proposed for inclusion in the lists of previous acceptable cargoes. The Committee noted a proposal to replace the specific ADI or TDI value with a requirement for a risk assessment, but agreed to retain the numerical value as this was the main element to assess the acceptability of substances. The Committee therefore retained this criterion as currently drafted and noted that its application would be considered further when examining the substances on the lists under Agenda Item 4b).

Criterion 3

45. In response to a proposal to delete the criterion, the Joint Secretary of JECFA at FAO recalled that this criterion had been included to ensure that allergenicity was taken into account in the evaluation of the substances. This was not covered by Criterion 2 since the factors considered by JECFA for establishment of an ADI normally do not include allergenicity, in view of the individual nature of allergenic reactions, and that different types of allergens originating from the chemicals transported as previous cargoes could be carried over to the oils through the previous cargo.

46. The Committee amended the text to clarify that the substance transported as cargo might be allergenic or contain an allergen. It was noted that when food allergens were involved, as in the case of peanut oil or soybean oil, refined oil would not be transported after crude oil and that previous cargoes were more likely to be chemicals than foods.

47. The Committee discussed whether the criterion should refer to allergens in general or to food allergens. Some delegations expressed the view that all types of allergenic reactions originating from oil contamination, such as inhalation or contact with cosmetics, should be taken into account. The Representative of FAO indicated that the experts had considered this issue in the Technical Meeting.

48. Other delegations proposed to address only food allergens in view of the mandate of Codex and the overall purpose of the Code to ensure food safety, as it was not the responsibility of the Committee to consider allergens that might be present in non food products. After some further discussion, the Committee agreed to refer to "food allergen" as the Code should address the contamination of oils intended for human consumption.

49. The Committee recognised that allergens might be present in the cargoes but could be removed by subsequent processing and clarified the text accordingly.

Criterion 4

50. The Committee agreed to limit this criterion to only include “known” reaction products, as it was important to focus on known reactions.

Placement of the Criteria in the Code

51. The Committee recalled that the criteria were intended to be part of the Code and agreed that they should be inserted at the end of Section 2.1.3 Contamination, following the paragraphs referring to the Appendices to the Code.

52. The Committee also agreed to include an introductory statement to the criteria, which would replace the current text and reflect how the criteria should be used by the competent authorities, and to clarify that the criteria applied to “immediate previous cargoes”.

53. The Chairperson noted that significant progress had been achieved and proposed to advance the Proposed Draft Criteria to Steps 5/8 for final adoption. The Delegation of the European Community, while supporting the development of the criteria, did not support their final adoption for the following reasons: if the criteria were considered independently from the lists of acceptable cargoes, they might be interpreted differently by national governments; and the process for the establishment and amendment of the lists and the identification of the risk assessor had to be clarified.

54. The Secretariat recalled that the Committee could consider any proposal for addition or amendment to the lists according to the Elaboration Procedure, and could ask for scientific advice from FAO/WHO, subject to the identification of a specific question and relevant data to support the request, taking into account the Working Principles for Risk Analysis.

Status of the Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes

55. The Committee agreed to advance the Proposed Draft Criteria as a Proposed Draft Amendment to section 2.1.3 of the Code of Practice for the Transport of Fats and Oils in Bulk, for adoption at Step 5 by the 32nd Session of the Codex Alimentarius Commission (see Appendix III).

DRAFT AND PROPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES IN THE CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK (Agenda Item 4b)⁸

56. The Committee recalled that its last session had agreed to circulate the Draft List (at Step 6) and Proposed Draft List (at Step 3) for comments and proposals that should focus on the substances that raised safety concerns, or were proposed for deletion or addition, or required further evaluation. The Committee agreed with the proposal of the Chairperson to consider the Proposed Draft List first in order to address the concerns expressed in earlier sessions on some of the substances, and then to proceed with the Draft List.

Proposed Draft List of Acceptable Previous Cargoes (at Step 4)

57. The Joint Secretary of JECFA at FAO presented the existing information in relation to evaluations performed by JECFA and ADIs established for the substances on the list of acceptable previous cargoes at Step 3 presented in CRD 8. She responded to a question of the Delegation of the United States and explained briefly the differences between the procedures used by JECFA for evaluation of food additives and flavouring agents. For flavouring agents a specific procedure had been developed by JECFA to assess groups of substances present in small amounts in food, taking into account classification into structural classes depending on the toxicological characteristics, chemical similarities of substances, the expected metabolism of the substances in the body and the estimated exposure based on production and/or use level data. This procedure for the safety assessment of flavouring agents was only applicable to chemically defined substances used as flavours in food. For other chemical substances, normal risk assessment principles and methodology would apply. The Joint Secretary also noted that JECFA may develop its risk assessment methodology in relation to the specificity of the substances to be evaluated.

⁸ CL 2007/8-FO, ALINORM 07/21/17, Appendix IV; CL 2008/32-FO; CX/FO 09/21/5 (Comments of Australia, Brazil, Kenya, Mali, FOSFA, FEDIOL); CRD 3 (comments of the Philippines); CRD 8 (Review of the Codex Lists-JECFA Evaluation, prepared by FAO)

58. The Committee noted that JECFA had evaluated some substances in the list and had allocated an ADI for some of these.

59. The Delegation of the United States noted the difficulties of using the JECFA evaluations for the purpose of assessing previous cargoes and expressed the view that the Committee should focus on the process to be followed to assess the substances. The Delegation stated that the development and maintenance of a list of previous cargoes might require specific risk assessments for several substances and extensive consideration in the Committee, which could be beyond the scope and abilities of the Committee. The Delegation recalled that Codex standards related to food safety should be developed according to the Working Principles for Risk Analysis and that the adequate risk assessment body had not been identified. This position was supported by several delegations.

60. The Secretary of JECFA at FAO explained that it is always possible for Codex Committees to ask for FAO and WHO for scientific advice in instances where a concern has been identified in the risk analysis process for specific food commodities, substances used in food or contaminants in food. The requests would however have to be well defined and be supported by sufficient data to allow a safety evaluation to be conducted. She emphasized that it was not possible to refer any of the substances on the list to JECFA without the necessary data as mentioned under Agenda Item 4a.

61. The Delegation of the European Community, recalling that the consideration of acceptable cargoes was part of the mandate of the Committee, stressed the importance of the development of the criteria and the lists and noted that the Committee could ask FAO/WHO for scientific advice if the request was focused and supported with adequate data.

62. Some other delegations supported the development of the lists as they provided an important reference to national authorities for regulatory and export purposes.

63. The Committee noted the proposals for additional substances in the written comments from FOSFA and agreed that fructose could be added to the list as it was a food ingredient.

64. The Delegation of Malaysia pointed out that the mixture of unfractionated fatty acids, mixture of unfractionated fatty alcohol and mixture of unfractionated fatty acid methyl esters, should be included in the list as their respective individual substances were included in the Draft List and did not result in adverse health effects.

65. The Delegation of the European Community only supported the inclusion of fatty acid methyl esters and 1-3 propylene glycol in the list, as the other substances had not been evaluated by the European Food Safety Authority (EFSA).

66. The Committee discussed a proposal to retain the other substances with a note indicating that they could be allowed subject to agreement by the competent authority in the importing country.

67. The Committee recalled that under Section 2.1.3 Contamination of the Code, previous cargoes which were not on the list could be used if agreed upon by the competent authority of the importing country.

68. The Committee also noted that the text was already included in the current introductory Note (2) to the Draft List, but did not discuss the Notes at this stage.

69. The Committee noted a proposal from the Delegation of Canada to insert a new paragraph in Section 2.1.3 Contamination recommending the use of the criteria in conjunction with the List of Banned Cargoes and the information available in Appendix 4 as an alternative to the development of a list of acceptable cargoes.

70. The Chairperson noted that in view of the above discussion there was no agreement on the further development or the substances in the list and that the questions raised at the present session would require further consideration at the next session.

Status of the Proposed Draft List of Acceptable Previous Cargoes

71. The Committee agreed to return the current Proposed Draft List, with the addition of fructose, to Step 3 for comments (see Appendix V). It was further agreed that any proposals for addition or deletion of substances from the list must be supported by scientific evidence.

72. The Committee also agreed to seek government comments on the mechanisms and procedures that could be used to apply the criteria discussed under Agenda 4a) to assess the acceptability of substances as

previous cargoes using the *Working Principles for Risk Analysis*, including the evaluation of substances without ADI, a “modus operandi” to address this issue in a timely manner and the process for inclusion of new substances based on proposals from Members arising from new scientific information and data.

Draft List of Acceptable Previous Cargoes (at Step 7)

73. The Delegation of the European Community recalled that no health concerns had been identified for any of the substances included in the Draft List and therefore proposed to advance it to Step 8 for adoption by the Commission, in view of its importance for the purposes of consumer protection, while noting that it was not exhaustive and could be updated at a later date in the light of the criteria under development under Agenda Item 4a.

74. Several delegations considered that the Draft List should not be discussed as long as the general issues raised in relation to the application of the criteria to the Proposed Draft List had not been adequately addressed, such as the need to base decisions on risk analysis; the application of the criteria; the update of the lists; the lack of JECFA evaluation for some substances; and eventually whether or not a list of acceptable previous cargoes was needed. Some delegations pointed out that the criteria should be finalised as a priority before considering individual substances.

Status of the Draft List of Acceptable Previous Cargoes

75. The Committee agreed to retain the Draft List at Step 7 pending further progress on the establishment of mechanisms and procedures that could be used to apply the criteria.

PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: AMENDMENT TO TOTAL CAROTENOIDS IN UNBLEACHED PALM OIL (Agenda Item 5)⁹

76. The Committee recalled that it could not reach consensus on the amendment to the carotenoids content due to lack of sufficient data from producing countries and that the Proposed Draft Amendment had been returned to Step 3 for further comment and consideration at the next session.

77. The Committee noted the result of the study undertaken by Indonesia presented in Document CX/FO 09/21/6-Add.1, which indicated that low total carotenoids levels in unbleached palm oils were principally attributed to varietal characteristics and associated with varieties of less significance for the production of palm oils in Indonesia and that the current levels were adequate, and therefore supported the suggestion of Indonesia to discontinue the work.

Status of the Proposed Draft Amendment to the Standard for Named Vegetable Oils

78. The Committee agreed to propose to the Commission to discontinue the work on the amendment to total carotenoids in unbleached palm oil in the *Standard for Named Vegetable Oils*.

PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: PALM KERNEL OLEIN AND PALM KERNEL STEARIN (Agenda Item 6)¹⁰

79. The Committee recalled that the amendment to the Standard for Named Vegetable Oils to include Palm Kernel Stearin and Palm Kernel Olein had been approved as new work by the 30th Session of the Commission and that the Proposed Draft Amendment prepared by Malaysia had subsequently been circulated for comments at Step 3.

80. The Committee generally supported the Proposed Draft Amendment and agreed to amend it as follows:

Description

81. The Committee agreed to move the descriptions of palm kernel olein and palm kernel stearin to follow “2.1.8 Palm kernel oil” and to renumber the subsequent subsections accordingly. It was further agreed that corresponding changes would be made in tables in the Standard when the provisions for palm kernel olein and palm kernel stearin were incorporated in the Standard.

⁹ CL 2007/8-FO; CL 2008/32-FO; ALINORM 07/30/17, Appendix VI; CX/FO 09/21/6 (comments of Brazil and Australia); CX/FO 09/21/6-Add.1 (Comments of Indonesia)

¹⁰ CL 2008/29-FO; CX/FO 09/21/7 (comments of Brazil, Costa Rica and Japan); CX/FO 09/21/7-Add.1 (Comments of Japan); CRD 2 (comments of the European Community)

Contaminants

82. The Committee noted that the section on contaminants of the Standard was not consistent with the *Format for Codex Commodity Standards* and agreed to request the Commission to approve the amendment to this section to replace it with the standard language in the *Format for Codex Commodity Standards*.

Fatty acid composition

83. The Committee agreed to amend the ranges of fatty acids for palm kernel olein as proposed by Japan in Document CX/FO 09/21/7, noting that the proposal took into account analytical results and variations found. The Delegation of Indonesia indicated that more time was necessary for them to examine if the proposed values were inclusive enough, especially with regard to C6:0, C10:0 and C 18:3. The Committee encouraged Indonesia to provide scientific data if it proposed to amend the current values.

Iron level

84. The Committee noted that the proposed iron level of 7.0 mg/kg in the Appendix was necessary only for palm kernel stearin, because the fractionation of palm kernel oil results in a higher level of iron in palm kernel stearin, and agreed to add a separate entry for palm kernel stearin instead of changing the level for virgin oils.

Status of the Proposed Draft Amendment to the Standard for Named Vegetable Oils

85. Some delegations supported forwarding the Proposed Draft Amendment to the Commission for final adoption at Step 5/8 since there was no unresolved matter in the Proposed Draft Amendment. However, noting the concern of Indonesia on the fatty acid composition, the Committee agreed to forward the Proposed Draft Amendment to the 32nd Session of the Commission for adoption at Step 5, with a view to its advancement to Step 8 at the next session (see Appendix IV).

PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS: LINOLENIC ACID LEVEL (Agenda Item 7)¹¹

86. The Committee recalled that its last session had agreed to circulate for comments at Step 3 a Proposed Draft Amendment including a level of linolenic acid of 1% with a footnote including other parameters to be considered when the level was higher than 1%. The 30th Session of the Commission had noted that the Committee had resumed its work on the Standard for Olive Oils and Olive Pomace Oils and had encouraged the Committee to solve the issue of the level of linolenic acid.

87. The Delegation of Australia, while stressing the importance of the quality and authenticity of olive oil, expressed the view that data from all production areas should be taken into account when establishing quality and composition factors. The Delegation informed the Committee that in Australia high quality olive oils could contain more than 1% linolenic acid due to agro-climatic conditions, and that other parameters were also used to detect the addition of seed oils. The Delegation also recalled that, according to the IOC survey, a significant proportion of olive oils were found to contain more than 1% linolenic acid in several producing countries and therefore this issue should be addressed at the global level. The Delegation proposed to replace the current Proposed Draft Amendment with a new compromise proposal to the effect that virgin olive oil not exceeding a 1.2% linolenic acid was considered to be in compliance with the Standard if stigmastadiene ≤ 0.05 mg/kg and $\Delta\text{ECN}42 \leq 0.1$, since more stringent levels for these two parameters would address concerns about potential adulteration (see CRD 10). This position was supported by other delegations.

88. The Delegation of the European Community indicated that no data existed to support a regular and consistent higher level of linolenic acid, as current surveys showed that a very limited and non-systematic percentage of production was concerned. The Delegation believed that a level of linolenic acid of 1% was of utmost importance for preserving a minimum level of undetectable adulteration. The Delegation also stressed that composition parameters should be based on scientific data and that the Standard was a reference for olive oil production world-wide. The Delegation therefore put forward a proposal based on text of the footnote discussed at the last session, indicating that virgin olive oil not exceeding 1.1% linolenic acid was considered to be in compliance with the Standard if stigmastadiene ≤ 0.05 mg/kg, $\Delta\text{ECN}42 \leq 0.1$ and

¹¹ CL 2007/8-FO, ALINORM 07/30/17; CL 2008/32-FO; CX/FO 09/21/8 (comments of Australia, Brazil, European Community, Iran, Kenya, New Zealand); CRD 4 (comments of Turkey); CRD 7 (comments of Argentina); CRD 10 (comments of Australia)

campesterol \leq 3.5 %. This position was supported by other delegations.

89. The Observer from IOC recalled that two extensive surveys on the level of linolenic acid in olive oils had been carried out by IOC. The Observer noted that the results of the second survey carried out between 2002 and 2007, collecting and analysing data from all producing areas, had been presented to the last session of the Committee and clearly demonstrated that only an insignificant proportion of olive oils in producing countries demonstrated a level of linolenic acid higher than 1%.

90. Several delegations informed the Committee that they participated actively in the IOC survey and had provided all relevant data. The Delegation of Turkey drew the attention of the Committee to its production data presented in CRD 4, which supported the conclusions of the IOC survey and the proposal from the European Community.

91. The Committee had an extensive discussion on the relevance of the level of linolenic acid in order to detect fraud. The Delegation of Argentina indicated that the addition of seed oils could be detected through several parameters, such as brassicasterol in rapeseed oil or trans fatty acids for soybean oil. Other delegations indicated that adulteration with desterolized oils could not be detected with sterols. However, other delegations noted that it was impractical to adulterate olive oils with desterolized oils on a commercially relevant scale. Some delegations pointed out that a higher linolenic acid level would significantly increase the possibility of adulteration and fraud in trade, while other delegations considered that no data related to the occurrence of adulteration had been so far presented to the Committee. Some delegations highlighted the necessity of including the three parameters with restrictive values in the footnote proposed by the EC and pointed out that it was important for the authenticity control of virgin olive oils with a linolenic acid content higher than 1%.

92. Some delegations indicated that authenticity of olive oil was also important for importing and consuming countries in order to ensure fair trade and consumer protection against fraud, and that it should be addressed at a global level by the Committee.

93. The Committee noted some proposals to recommend the use of the parameters mentioned in the footnote without numerical levels, in view of the difficulty of establishing specific levels, or a more general statement concerning the need for further testing when the level of linolenic acid was above 1%, without specifying the parameters required. Several delegations and the Observer from IOC expressed the view that the present standard for olive oils and olive pomace oils reflected the most up-to-date scientific knowledge and invited delegations to present any specific alternative parameters and methods to establish authenticity of which they were aware.

94. The Delegation of New Zealand recalled that this issue had been discussed for many years and that it was urgent to find a solution which would allow global trade and ensure that olive oil industry could develop on a long term basis. The Delegation therefore supported the proposal from Australia as a constructive compromise and proposed to advance it to Step 5/8 for adoption by the Commission, with an agreement to review the entire issue after five years, taking into account any new information on global variations and data on fraud and adulteration. This position was supported by the Delegation of Australia.

95. The Committee recognised that in view of the above discussion and the wide range of views expressed, there was not enough support for the advancement of any proposal under consideration for adoption by the Commission. The Committee therefore agreed that the proposed footnotes put forward by the Delegations of Australia and the European Community should be circulated for further comments and discussion at the next session.

Status of the Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils: Linolenic Acid Level

96. The Committee agreed to return to Step 3 the Proposed Draft Amendment, presented as two alternative proposals for a footnote to the level of linolenic acid, as presented in Appendix VI.

97. It was further agreed that if no agreement could be reached at the next session, the Committee would recommend the discontinuation of work on the level of linolenic acid.

COMPOSITION AND NAMING OF FATTY ACID MODIFIED VEGETABLE OILS (Agenda Item 8)¹²

98. The Committee recalled that its last session had considered a revised discussion paper prepared by the electronic working group led by Canada, which aimed to explore a robust, flexible and consistent system for naming fatty acid modified vegetable oils but could not come to a final conclusion on the recommendation contained therein and therefore welcomed the offer of the Delegation of Canada to prepare a further revised document, with the assistance of the United States of America and France.

99. The Delegation of Canada introduced the revised discussion paper, which contained examples of proposed amendments to the *Standard for Named Vegetable Oils* and application of the comparative and absolute criteria for naming of fatty acid modified vegetable oil as well as a project document, as requested by the last session of the Committee.

100. The Committee generally recognized the need that fatty acid modified vegetable oils be named in a consistent manner and some delegations supported initiating work in this direction. In this regard, one delegation informed the Committee that there were many new fatty acid modified vegetable oils forthcoming in the market, which would add to the need for a consistent naming system. However, the Committee noted various concerns on proceeding with new work proposed in the discussion paper, as follows.

101. Several delegations noted that the naming of a vegetable oil with modified levels of fatty acids could be seen as a nutrition claim, in which case the naming criteria should be consistent with the *Guidelines for Use of Nutrition and Health Claims (CAC/GL 23-1997)*, and suggested that the proposal be referred to the Committee on Food Labeling (CCFL) and the Committee on Nutrition and Foods for Special Dietary Uses (CCNFSDU) for advice. In response to these views, the Codex Secretariat clarified that declaration of fatty acid modification as part of the name of the product should be regarded as a correct description of the product and not necessarily a nutrition claim and that the names of fatty acid modified vegetable oils so far included in the *Standard for Named Vegetable Oils* had never been seen as nutrition claims. It was further clarified that while the Committee could seek advice of other committees at any time, questions should be very specific; that the elaboration of commodity-specific provisions were the responsibility of commodity committees; and that the Committee could seek advice from the CCFL and CCNFSDU if necessary at a later stage in the elaboration procedure.

102. Some delegations were of the view that the currently proposed naming criteria were rather confusing and could mislead consumers, referring in particular to the difficulty in naming a vegetable oil for which an intended modification was on a fatty acid originally found at very low levels. One delegation also pointed out that the consumers' knowledge on nutritional or health implications of various fatty acids were still very limited and that the indications of changes in fatty acid levels were not particularly useful for consumers, although it might be of some use by industries.

103. Drawing the attention of the Committee to the possible workload involved in furthering this task, one delegation suggested that for the time being it would be more reasonable to consider the names of fatty acid modified vegetable oils on a case-by-case basis, since there were still a limited number of them. Another delegation pointed out that examples in the discussion paper included hypothetical modifications and stressed that further analysis should be done based on existing vegetable oils, if the work was to be proposed in the future.

104. In response to the above comments on the proposed criteria in the discussion paper, one delegation reminded the Committee that the intent of the discussion paper was to present different approaches to address the need for consistent naming of fatty acid modified oils for the Committee to consider in developing a simple and uniform approach.

Conclusion

105. In view of lack of support to pursue this work and the concerns expressed above, the Committee agreed to discontinue the consideration of a system for naming vegetable oils that have a modified fatty acid composition.

OTHER BUSINESS AND FUTURE WORK (Agenda Item 9)¹³

¹² CX/FO 09/21/9; CRD 5 (comments of Malaysia);

¹³ CX/FO 09/21/10; CX/FO 09/21/11; CRD 6 (proposal of Switzerland); CRD 7 (proposal of Argentina); CRD 10

PROPOSAL TO AMEND THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS: CONTENT OF DELTA-7-STIGMASTENOL

106. The Delegation of Syria informed the Committee that a survey on delta-7-stigmastenol level in virgin olive oils from five important olive varieties in Syria, which had been undertaken as a follow-up to its proposal at the last session of the Committee, indicated that the observed higher delta-7-stigmastenol levels beyond the limits in the current Standard were due to varietal characteristics as well as various environmental factors. The Delegation further noted that a higher level of delta-7-stigmastenol itself would not have adverse effects on the quality of olive oils and that adulteration of olive oils could be detected by various means other than delta-7-stigmastenol levels and stressed the need to address this issue.

107. However, noting that a comprehensive survey covering various olive oil producing countries and also addressing other quality factors was underway by IOC, the Delegation deferred a proposal for new work and indicated that a more comprehensive and detailed proposal supported by this survey would be submitted at a future date.

108. The Observer from IOC informed the Committee that the working group, open to all members of IOC as well as non-members, had met once in December 2008 and would meet for a second time in March 2009. It was noted that the working group would consider various parameters in the standard, for which olive oils showing values outside the currently approved ranges were reported, and would base its considerations on data collected from olive oil producing countries worldwide. In this regard, it was stressed that the data to support this activity should be produced in accordance with the required methods of sampling and analysis and should be accompanied by comprehensive information on the origin of olive oil, such as varieties, agricultural practices applied and geographic and climatologic conditions.

109. Some delegations expressed willingness to participate in this activity and supported further consideration of the proposal from Syria.

110. The Committee agreed to invite Syria to submit a revised proposal at its next session, which should be substantiated by a project document.

PROPOSAL FOR TECHNICAL AMENDMENT OF THE STANDARD FOR NAMED VEGETABLE OILS: UPDATE OF VARIETY OF RAPESEED OIL – LOW ERUCIC ACID

111. The Committee noted the proposal of Canada contained in Document CX/FO 09/21/11 to amend the scientific name for a species contained in the Standard for Named Vegetable Oils under 2.1.13 “Rapeseed oil” and 2.1.14 “Rapeseed oil – low erucic acid”. The Committee was informed that while *Brassica rapa* was the agreed scientific name for this species according to the International Code of Botanical Nomenclature (ICBN), due to the uncertainty regarding the relations between its subspecies in the past, *Brassica campestris* was still occasionally used to refer to this species, which was the case for its inclusion in Sections 2.1.13 and 2.1.14 of the Standard.

112. Based on this information, the Committee agreed to request the Commission to adopt the amendments to the Standard for Named Vegetable Oils to replace “*Brassica campestris*” with “*Brassica rapa*” in Section 2.1.13 “Rapeseed oil” and Section 2.1.14 “Rapeseed oil – low erucic acid”.

PROPOSAL FOR NEW WORK ON A CODEX STANDARD FOR FISH OILS

113. The Delegation of Switzerland introduced its proposal for new work on a standard for fish oils as contained in CRD 6. It was noted that although fish oils had initially been proposed to the consumer as a supplement, their application in food had been growing due to its nutritional properties and that fish oil was traded at prices five to 12 times higher than other oils.

114. While several delegations expressed interest in this proposal, many delegations expressed their reservation on an in-depth discussion at the current session because the proposal was made available only at the meeting and there was not enough time for them to consult with relevant stakeholders.

115. It was noted that it was necessary to clarify if this standard would cover fish oil for direct human consumption and/or for further processing, in order to define the scope of work. It was further noted that its possible inclusion in the *Standard for Named Animal Fats* should also be considered.

116. In view of these observations, the Committee agreed to consider this proposal at its next session, based on a revised project document to be prepared by Switzerland, taking into account the comments and view presented at the current session as well as the Guidelines on the Application of the *Criteria for the Establishment of Work Priorities* Applicable to Commodities¹⁴.

PROPOSAL FOR THE REVISION OF THE CODEX STANDARD FOR NAMED VEGETABLE OILS: SUNFLOWER SEED OILS

117. The Delegation of Argentina indicated that some gaps existed in the ranges of oleic acid (C18:1) and linolenic acid (C18:2) for sunflower oils in Table 1 of the Standard, with the result that some sunflower oils from traditional crops were not covered by any of the three types of sunflower oil. The Delegation also highlighted the lack of consistency in the expression of the maximum and minimum levels for refractive index and density in terms of temperature; the lack of correlation and/or continuity between the levels; and the lack of continuity or overlap for iodine values. The Delegation therefore proposed to initiate new work on the revision of the Standard for Named Vegetable Oils to address these inconsistencies.

118. Several delegations indicated that they could not take a position at this stage as the document had been presented at the current session, and that more information and scientific justification would be required to consider new work.

119. The Committee welcomed the proposal of the Delegation of Argentina to prepare a revised document including all relevant scientific data on sunflower oil related to possible new work, for consideration by the next session.

PROPOSAL FOR AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: LOW LINOLENIC ACID, MID OLEIC ACID AND HIGH OLEIC ACID SOYBEAN OILS

120. The Delegation of the United States of America recalled that the 19th Session of the Committee (2005) had agreed to propose to the Commission to undertake new work on the two of the above soybean oils. However, the Commission had recommended that the work be delayed until such time as the criteria approach for naming vegetable oils should progress. As since that date low linolenic acid oil had been introduced on the market and traded internationally, mid-oleic soybean oil was also on the market and high oleic soybean oil was expected to be traded soon internationally, the Delegation proposed to initiate new work on the provisions for these products and pointed out that such work would be consistent with Goal 1 of the Codex Strategic Plan.

121. Some delegations pointed out that the proposals did not provide enough justification in terms of production and trade as one of the oils was only at the experimental stage, while production and trade of the other oils were very limited. It was also noted that no information was provided as to production and trade of these oils in other countries. Some delegations also indicated that the proposal had been received only at the session and that there had not been enough time to consider the proposals.

122. The Committee agreed that there was no support for new work on the three new named vegetable oils, and that this question might be considered in the future, provided that the proposal would be supported by adequate trade data.

DATE AND PLACE OF NEXT SESSION (Agenda Item 10)

123. The Committee recalled that it had been invited to consider if the interval and duration of its meeting were appropriate (*see* Agenda Item 2). In view of the time required to prepare supporting data necessary for the elaboration of standards and with the understanding that inter-session and in-session working mechanisms could expedite work of an urgent nature, the Committee agreed that the current interval of 24 months was appropriate. The Committee further agreed that the current duration of meetings (five days) was appropriate for its current workload.

124. The Committee was informed that its next session would meet in Malaysia in February 2011. The exact venue and date would be determined by the host Government in consultation with the Codex Secretariat.

¹⁴ ALINORM 08/31/3, Appendix II

SUMMARY STATUS OF WORK

| Subject Matter | Step | Action by | Document Reference in ALINORM 09/32/17 |
|--|-------------|--|---|
| Draft Amendments to the Standard for Named Vegetable Oils: inclusion of rice bran oil | 8 | Governments 32 nd CAC | para.30 Appendix II |
| Proposed Draft Criteria (Code of Practice for the Storage and Transport of Fats and Oils in Bulk) | 5 | Governments 32 nd CAC 22 nd CCFO | para. 55 Appendix III |
| Proposed Draft Amendments to the Standard for Named Vegetable Oils: inclusion of palm kernel olein and palm kernel stearin | 5 | Governments 22 nd CCFO | para. 85 Appendix IV |
| Draft List of Acceptable Previous Cargoes | 7 | 22 nd CCFO | para. 75 |
| Proposed Draft List of Acceptable Previous Cargoes | 3 | Governments 22 nd CCFO | para.. 71 Appendix V |
| Proposed Draft Amendments to the Standard for Named Vegetable Oils: total carotenoids in unbleached palm oil | 4* | 32 nd CAC | para. 78 |
| Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils: linolenic acid | 3 | Governments 22 nd CCFO | para. 96 Appendix VI |
| Additives Provisions in Standards for Fats and Oils | | 41 st CCFA 32 nd CAC | para. 14-23 Appendix VII |

* Discontinuation of work

**LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES**

| | |
|---|---|
| Chairperson / Présidente Presidenta | Ms. Noraini Mohd Othman Director Food Safety and Quality Division Ministry of Health Malaysia Level 3, Block E7, Parcel E Federal Government Administrative Centre 62590 Putrajaya, Malaysia. Phone: +603-8883 3501 Fax: +603-8889 3815 Email: noraini_othman@moh.gov.my |
| Alternative Chairperson / Présidente alternative Presidenta alterna | Ms Noraini Sudin Food Technology Consultant Food Safety and Quality Division Ministry of Health Malaysia Level 3, Block E7, Parcel E Federal Government Administrative Centre 62590 Putrajaya, Malaysia. Phone: 6019-2733132 Email: nena.noraini@yahoo.com |

ALGERIA / ALGÉRIE / ARGELIA

Mr Djamel Abad
Directeur Général - Centre Algérien du Contrôle de la
Qualité et de l'Emballage
Ministère du Commerce
Route nationale N°5 bab ezzouar
Alger 16211, Algérie.
Phone: 213-661-50-51-68, 213-21-24-31-11
Fax: 213-21-24-30-11
Email: Djamelabad@yahoo.fr

Mr El Mounir Bouabsa
Directeur de la Cooperation et des Enquêtes
Spécifiques
Ministère du Commerce
Cité Zerhouni Mokhtoura El Mohammadia
Alger 16211, Algérie
Phone: 213 21 89 00 64
Fax: 213 21 8902 46
Email: embouabsa@hotmail.com

ARGENTINA / ARGENTINE

Mrs Maria Alejandra Larre
Oficina Punto Focal Codex – Secretaria de Agricultura
Ganaderia, Pesca y Alimentos
Paseo Colon 922 – PB. Of 29
Ciudad Autónoma de Buenos Aires
Buenos Aires 1063, Argentina
Phone: 5411-4349-2747
Email: mlarre@mecon.gov.ar

AUSTRALIA / AUSTRALIE

Dr Robert Solomon
Manager, International Food Standards
Australian Government Department of Agriculture,
Fisheries and Forestry
GPO Box 858
Canberra 2601 - Australia.
Phone: +61 2 6272 5945
Fax: +61 2 6272 3372
Email: rob.solomon@daff.gov.au

Dr Rodney Mailer
Principal Research Scientist
Department of Primary Industries
Wagga Wagga Agricultural Institute
Private Mail Bag, NSW
Wagga Wagga 2650, Australia.
Phone: +61 269381818
Fax: +61 2 69381809
Email: rod.mailer@dpi.nsw.gov.au

BRAZIL / BRÉSIL / BRASIL

Mrs Ana Paula De R. Peretti Giometti
Specialist in Health Surveillance
National Health Surveillance Agency
SIA, trecho 5, área especial 57
Brasília-DF 71.205-050, Brazil.
Phone: +55(61)3462-5352
Fax: +55(61)3462-5315
Email: ana.peretti@anvisa.gov.br

Mrs Liliane Fernandes
Specialist in Health Surveillance
National Health Surveillance Agency
SIA, trecho 5, área especial 57
Brasília-DF 71.205-050
Brazil.
Phone: +55(61)3462-5332
Fax: +55(61)3462-5315
Email: liliane.fernandes@anvisa.gov.br

Mr Rafael Barrocas
Federal Inspector
Ministry of Agriculture, Livestock and Food Supply
Esplanada dos Ministérios, Bloco “D”- Anexo “B”
Sala 346
Brasília-DF 70043-900
Brazil.
Phone: +55(61)3218-2627
Fax: +55(61)3224-4322
Email: Rafael.barrocas@agricultura.gov.br

CANADA / CANADÁ

Ms Kathy Twardek
A/National Manager
Canadian Food Inspection Agency
1400 Merivale Road
Tower 2, Floor 6, Room #141
Ottawa, Ontario
Canada.
Phone: 613-773-5489
Fax: 613-773-5603
Email: kathy.twardek@inspection.gc.ca

Dr Nimal Ratnayake
Senior Research Scientist
Health Canada
Nutrition Research Division, Food Directorate, Health
Products and Food Branch,
Health Canada, 251 Sir Frederick Banting Driveway
PL 2203E
Ottawa, Ontario K1A 0K9
Canada.
Phone: 613-954-1396
Fax: 613-941-6182
Email: nimal_ratnayake@hc-sc.gc.ca

CHILE / CHILI

Mr Cornejo Catalan
Médico Veterinario
Ministerio de Salud
Enrique Mac – Iver 459
Santiago de Chile
Santiago
Chile
Phone: 562 - 5740614
Email: Jcorneso@minsixl.cl

CZECH REPUBLIC / RÉPUBLIQUE TCHÈQUE/ REPÚBLICA CHECA

Dr (Mr) Leos Celeda
Third Secretary
Ministry of Foreign Affairs CR
Permanent Representation of the Czech Rep.
15, rue Caroly
1050 Brussels
Belgium.
Phone: +32 (0) 2 2139 427
Fax: +32 (0) 2 2139 184
Email: leos_celeda@mzv.cz

Dr (Ms) Dana Triskova
Head of Animal Origin Food Unit
Ministry of Agriculture of the Czech Republic
Tesnov 17
11705 Prague 1
Czech Republic.
Phone: +420221812702
Fax: +420222314117
Email: dana.triskova@mze.cz

Dr (Mr) Jindrich Fialka
Director of Food Production and Legislation
Department
Ministry of Agriculture of the Czech Republic
Tesnov 17
11705 Prague 1
Czech Republic.
Phone: +420221812702
Fax: +420222314117
Email: jindrich.fialka@mze.cz

Mrs Raluca Ivănescu
Administrator
General Secretariat of the Council of the European
Union - the Czech Presidency
Rue de la Loi 175
Brussels BE-1048
Belgium.
Phone: +32 - 2 281 3158
Fax: +32 - 2 281 6198
Email: raluca.ivanescu@consilium.europa.eu

EGYPT / ÉGYPTE / EGIPTO

Prof. Dr. Hanafy Abdel-Aziz Hashem
Egyptian Organization for Standardization & Quality
(EOS)
Professor of Food Science and Technology
Faculty of Agriculture, Al-Azhar University
Nasr City,
Cairo, Egypt.
Phone: 0106617520
Email: Hanafyhashem@hotmail.com

Prof. Dr. Mahmoud Mohammed Mostafa
 Egyptian Organization for Standardization & Quality
 (EOS)
 Professor of Food Science and Technology
 Faculty of Agriculture
 Minufiya University
 Shebin El-Kom, Egypt
 Phone: 01015160378
 Email: dr.Mahmoud MSTF@yahoo.com

ETHIOPIA / ÉTHIOPIE / ETIOPIÁ

Mr Muhiye Endrie
 Head, Chemical Testing Laboratory
 Quality and Standards Authority of Ethiopia
 Bole Kifle ketema, kebele 11/12
 P.O.Box 2310
 Addis Ababa 2310
 Ethiopia.
 Phone: 251 11 646 0565
 Fax: 251 11 646 0880 9(81)
 Email: qsae@ethionet.et
 muhiyeh@yahoo.com

EUROPEAN COMMUNITY / COMMUNAUTÉ EUROPÉENNE / COMUNIDAD EUROPEA

Dr Eva Zamora Escribano
 Policy Officer
 European Commission
 DG Health and Consumers
 Rue Froissart 101 (2/60)
 Brussels 1049, Belgium.
 Phone: +32 2 299 86 82
 Fax: +32 2 299 85 66
 Email: eva-maria.zamora-escribano@ec.europa.eu

Mr Panagiotis Barzoukas
 Head Of Olive Oil Sector
 European Commission
 Directorate General for Agriculture and Rural
 Development
 130 rue de la Loi
 BRUSSELS 1049 - BELGIUM
 Phone: 00 32 2 2969091
 Fax: 00 32 2 2953709
 Email: panayotis.barzoukas@ec.europa.eu

FINLAND / FINLANDE / FINLANDIA

Ms Leena Kotsalo
 Senior Adviser
 Ministry of Agriculture and Forestry
 P.O. Box 30, 00023 Government
 FINLAND
 Helsinki
 FINLAND
 Phone: +358-9-1605 4299
 Fax: +358-9-1605 3400
 Email: leena.kotsalo@mmm.fi

GAMBIA / GAMBIE

Mr Gabriel L.S. Gomez
 Agribusiness Consultant
 Gambia Codex Committee
 Gambia-Banjul
 10 Cockway Street KSMD
 Banjul 2004 SK
 Gambia
 Phone: (0220)4394863
 Fax: (0220)4378955
 Email: nanjaafu@yahoo.co.uk

GERMANY / ALLEMAGNE / ALEMANIA

Mr Hermann Brei
 Regierungsdirektor
 Federal Ministry of Food, Agriculture and Consumer
 Protection
 Rochusstraße 1
 Bonn 53123
 Germany
 Phone: +49(0)228 529-4655
 Fax: +49(0)228 529-4965
 Email: Hermann.brei@bmelv.bund.de

GREECE / GRÈCE / GRECIA

Mr Vasileios Kontolaimos
 Legal Advisor
 Ministry of Rural Development and Food
 Acharnon 29
 Athens 10439
 Greece.
 Phone: 302108250307
 Fax: 302108254621
 Email: cohalka@otenet.gr

Mrs Efstathia Kremmyda – Christopoulou
 Analysis Supervisor in Chem Labs
 Ministry of Development – Chem Labs
 Cannigos Square
 Athens 10181
 Greece
 Phone: 0030 210 3829166
 Fax: 0030 210 3842642
 Email: christopoulou@efpolis.gr

Mr Konstantinos Stournaras
 Officer
 Ministry of Rural Development and Food
 2, Acharnon Str.
 Athens 101 76
 Greece.
 Phone: +30 210 2124224
 Fax: +30 210 5237923
 Email: ax2u068@minagric.gr

GUATEMALA

Mr. Mario Lopez
 Coordinator Norms and Regulation Unit
 Ministry of Agriculture
 7a. Avenue 12-90 Zone 13
 Guatemala, 01013 Guatemala
 Phone: +50224137389
 Fax: +50224137385
 Email: mario.Lopez@maga.gob.gt

INDONESIA / INDONÉSIE

Dr. Sunarya
 Deputy Director General
 National Standardization Agency of Indonesia
 Gedung Manggala Wanabhakti Blok IV Lt. 4
 Jl. Jend. Gatot Subroto, Senayan
 Jakarta 10270, Indonesia.
 Phone: 62 21 5747043
 Fax: 62 21 5747045
 Email: sunarya@bsn.or.id,
 sps-2@bsn.or.id

Mr Singgih Harjanto
 Officer, Secretariat of the Codex Contact Point
 National Standardization Agency of Indonesia
 Gedung Manggala Wanabhakti Blok IV Lt. 4
 Jl. Jend. Gatot Subroto, Senayan
 Jakarta 10270
 Indonesia.
 Phone: 62 21 5747043
 Fax: 62 21 5747045
 Email: singgih@bsn.or.id

Mrs. Yelita Basri
 Director of Food Industry
 Ministry of Industry
 Jl. Gatot Subroto Kav. 52-53 17th floor
 Jakarta Selatan
 Jakarta 12950
 Indonesia.
 Phone: 62 21 5252709
 Fax: 62 21 5252709
 Email: dir_makanan@yahoo.co.id,
 dirmak@depperin.go.id

Mr. Timbun Aritonang
 Head of Sub Directorate
 Ministry of Industry
 Jl. Gatot Subroto Kav. 52-53 17th floor
 Jakarta Selatan
 Jakarta 12950
 Indonesia.
 Phone: 62 21 5252709
 Fax: 62 21 5252709
 Email: aritonang_pi@yahoo.co.id

Mr. Djumhana
 Head of Sub Directorate
 Ministry of Industry
 Jl. Gatot Subroto Kav. 52-53 17th floor
 Jakarta Selatan
 Jakarta 12950
 Indonesia.
 Phone: 62 21 5252709
 Fax: 62 21 5252709

Ms Chandrini Mestika Dewi
 Head of Cooperation Sub Directorate
 Directorate of Supervision and Quality Control
 Ministry of Trade
 Jl. Raya Bogor Km. 26, Ciracas, Jakarta Timur
 Jakarta
 Indonesia.
 Phone: 62 21 8710323
 Fax: 62 21 8710478
 Email: Codexs_ppmb@yahoo.com
 dewichandrini@yahoo.com

Mr. Yogo Dwianto
 Staff of Quality Control Export Commodity Division
 Directorate of Supervision and Quality Control
 Ministry of Trade
 Jl. Raya Bogor Km. 26, Ciracas, Jakarta Timur
 Jakarta
 Indonesia.
 Phone: 62 21 8710323
 Fax: 62 21 8710478
 Email: yogo_1802@yahoo.com

Dr. Donald Siahaan
 Senior Pricipal Research Officer
 Head of Product and Processing Development and
 Quality Research Division
 Indonesian Oil Palm Research Institute
 Jl. B. Kalamso 51, Medan
 North Sumatera
 20158
 Indonesia.
 Phone: 62 61 7862477
 Fax: 62 61 7862488
 Email: donald@iopri.org
 donaldjts@yahoo.com

Mr. Derom Bangun
 Vice Chairman
 Indonesian Palm Oil Board (IPOB)
 Advisory Board Member
 Indonesian Palm Oil Association (IPOA)
 Sudirman Park Rukan Blok B No. 18
 Jl. KH. Mas Mansyur Kav. 35 Jakarta Pusat
 Jakarta 10220
 Indonesia.
 Phone: 62 21 57943871
 Fax: 62 21 57943872
 Email: derom@indosat.net.id

Mr. Nasriansyah
 Staf Konsulat Jenderal (Kota Kinabalu)
 Konsulat Jenderal di Kota Kinabalu
 Lrg. Kemajuan Karamunsing 88817
 Kota Kinabalu
 Phone: 6088-210600
 Fax: 6088-215170
 Email: rian.nasriansyah@yahoo.co.id

ITALY / ITALIE / ITALIA

Mr. Ciro Impagnatiello
 Ministero delle Politiche Agricole Alimentari
 e Forestali
 VIA XX Settembre, 20
 Roma, 00187, Italy
 Phone: +390646656046
 Fax: +39064880273
 Email: c.impagnatiello@politicheagricole.gov.it

IVORY COAST / CÔTE D'IVOIRE / COSTA DE MARFIL

Mrs Aya Marie Lydie Yapo – N'dri
 Safety, Quality Manager of Sania
 Codex in Ivory Coast
 Comite National Du Codex Alimentarius
 20 BP 211 Abidjan 20
 Abidjan 225
 Ivory Coast
 Phone: +22521757813
 Fax: +22521272813
 Email: yapondrimarielydie@yahoo.fr

JAPAN / JAPON / JAPÓN

Mrs Yuko Watanabe
 Associate Director
 Ministry of Agriculture, Forestry and Fisheries
 1-2-1 Kasumigaseki, Chiyoda-ku
 Tokyo 100-8950
 Japan.
 Phone: +81-3-3502-5744
 Fax: +81-3-3502-0614
 Email: yuko_watanabe@nm.maff.go.jp

Ms Ayako Yoshio
 Ministry of Agriculture, Forestry and Fisheries
 1-2-1 Kasumigaseki Chiyoda-ku
 Tokyo 100-8950
 Japan.
 Phone: +81-3-3502-8732
 Fax: +81-3-3507-4232
 Email: ayako_yoshio@nm.maff.go.jp

Mr Kohta Kurokawa
 Ministry of Agriculture, Forestry and Fisheries
 1-2-1 Kasumigaseki, Chiyoda-ku
 Tokyo 100-8950
 Japan.
 Phone: +81-3-3502-5744
 Fax +81-3-3502-0614
 Email: kouta_kurokawa@nm.maff.go.jp

Mr Atsuhiko Arima
 Technical Adviser
 Japan Oilseeds Processors Association
 Sumitomo Fudosan Mita Twin Bldg. West Wing,
 3-5-27, Mita, Minato-ku
 Tokyo 108-6323
 Japan.
 Phone: 03-5418-1071
 Fax: 03-5418-1072
 Email: arima.atsuhiko@so.fujioil.co.jp

KENYA / KENIA

Peter Mutua
 Standards Officer
 Kenya Bureau of Standards
 P.O.Box 54974
 Nairobi 00200
 Kenya
 Phone: +254 20 6948000
 Fax: +254 20 609660
 Email: mutuap@kebs.org

LIBYAN ARAB JAMAHIRIYA / GRANDE JAMAHIRIYA ARABE LIBYENNE POPULAIRE ET SOCIALISTE / LIBIA

Prof. Tawfik M. Hassan
 Consultant Codex Contact Point Libya
 Libyan National Centre for Standardization and
 Metrology, P.O Box 12531
 Tripoli, Libya
 Phone: +218 92 503 7007
 Fax: +218 21 715 2967
 Email: Tawfik@Inesm.org.ly

Mr. Ali Ramadan Benzitoun
 Member of Libyan Codex Committee
 Libyan National Centre for Standardization and
 Metrology, P.O Box 5178
 Tripoli, Libya
 Phone: +218 92 544 1094
 Fax: +218 21 715 2967
 Email: Benzitoun@gmail.com

MALAYSIA / MALAISIE / MALASIA

Dato' Dr. Mohd Basri Wahid
 Director General
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8769 4402
 Fax: +603 8925 9446
 Email: basri@mpob.gov.my

Dr. Salmiah Ahmad
 Deputy Director General Services
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8926 6163
 Fax: +603 8926 1329
 Email: salmiah@mpob.gov.my

Dr. Kalanithi Nesaretnam
 Director Product Development & Advisory Services
 Division
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8925 9952
 Fax: +603 8922 1742
 Email: sarnesar@mpob.gov.my

Mr. Tang Thin Sue
 Senior Research Fellow
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8769 4523
 Fax: +603 8920 1918
 Email: tstang@mpob.gov.my

Dr. Siew Wai Lin
 Senior Principal Research Officer
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8769 4400
 Fax: +603 8925 9446
 Email: siew@mpob.gov.my

Dr. Tan Yew Ai
 Principal Research Officer

Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8769 4436
 Fax: +603 8920 1918
 Email: tan@mpob.gov.my

Mr. Nik Aznizan Nik Ibrahim
 Research Officer
 Technical Advisory Services Unit
 Product Development & Advisory Services Division
 Malaysian Palm Oil Board (MPOB)
 No. 6, Persiaran Institusi
 Bandar Baru Bangi
 43000 Kajang, Selangor
 Malaysia
 Phone: +603 8769 4437
 Fax: +603 8920 1918
 Email: aznizan@mpob.gov.my

Ms Ruhana Abdul Latif
 Assistant Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3552
 Fax: +603-8889 3815
 Email: ruhana_latif@moh.gov.my

Mr. Syamsul Erwin Muhamad Lagis
 Assistant Secretary
 Ministry of Plantation Industries and Commodities
 No. 15, Level 7, Persiaran Perdana
 Presint 2, Putrajaya, 62654
 Malaysia
 Phone: +603 8880 3430
 Fax: +603 8880 3441
 Email: erwin@kppk.gov.my

Mrs Chin Hui Han
 Research Officer
 Malaysian Cocoa Board
 Lot 3, Jalan P/9B, Seksyen 13
 Bandar Baru Bangi, Selangor
 Malaysia
 Phone: +603 8927 1046
 Fax: +603 8925 5386
 Email: hhchin@koko.gov.my

Dr. Farinazleen Mohamad Ghazali
 Senior Lecturer
 Faculty of Food Science & Technology
 Universiti Putra Malaysia

43400 Serdang
Selangor, Malaysia
Phone: 603-89468388
Fax: 603-89423552
Email: farinazleen@putra.upm.edu.my

Ms. Rozita Baharuddin
Consultant
No. 2, Jalan SS2/7,
Kelana Jaya, Petaling Jaya
Selangor, Malaysia
Phone: +603 7877 4134
Fax: +603 4142 1931
Email: rozitabaharuddin@gmail.com

Mr. Mohd Muslimin Hashim
Senior Executive
Malaysian Palm Oil Council
2nd Floor, Wisma Sawit, Lot. 6
SS6, Jalan Perbandaran
Kelana Jaya, Petaling Jaya 47301
Selangor, Malaysia
Phone: +603 7806 4097
Fax: +603 7806 2272
Email: muslimin@mpoc.org.my

Mrs. Zainorni Mohd Janis
Senior Executive
SIRIM Berhad
1, Persiaran Dato' Menteri
Section 2, P.O Box 7035
40911, Shah Alam
Malaysia
Phone: +603 5544 6312
Fax: +603 5510 8830
Email: zainorni@sirim.my

Mr. Tan Beng Huat
Director, Marketing & Promotion
Malaysian Palm Oil Association
12th Floor Bangunan Getah Asli
148 Jalan Ampang, 50450
Kuala Lumpur, Malaysia
Phone: +603 2710 5677
Fax: +603 2710 5679
Email: tanbh@mpoa.org.my

MALDIVES / MALDIVAS

Ms Aishath Mohamed
JL. Scientific Officer
Maldives Food and Drug Authority
Sosun Magu
Male, Maldives.
Phone: +960 7732901
Fax: +960 3304570
Email: nhl@mfd.gov.mv

NEW ZEALAND / NOUVELLE-ZÉLANDE / NUEVA ZELANDA

Mr Sundararaman Rajasekar
Senior Programme Manager (Codex) and Codex
Contact Point
New Zealand Food Safety Authority
68 Jervois Quay
PO Box 2835
Wellington 6001
New Zealand.
Phone: +64 4 894 2576
Fax: +64 4 894 2583
Email: raj.rajasekar@nzfsa.govt.nz

PERU / PÉROU / PERÚ

Mrs Lily Isabel
Ingeniero
Ministerio de Salud-Perú
Las Amapolas 350
Lima
Perú
Phone: 442 – 8353 (126)
Email: lchuquillanqui@digesa.minsa.gob.pe

PHILIPPINES / FILIPINAS

Mrs Alicia V. Fontecha
Manager, Market Development Department
Philippine Coconut Authority
Elliptical Road, Diliman
Quezon City 1100
Philippines.
Phone: (63-2) 9262281
Fax: (63-2) 9262281
Email: pca_mktdev@yahoo.com /
mrpd5@yahoo.com

Mrs Yvonne Agustin
Executive Director
United Coconut Association of the Philippines
2/F PCRDF Bldg., Pearl Drive, Ortigas Center
Pasig City 1605
Philippines.
Phone: (63-2) 6339286
Fax: (63-2) 6338030
Email: ucap@ucap.org.ph

Ms Lucy Falcatan
Division Chief
Philippine Coconut Authority
Eliptical Road
Diliman, Quezon City 1100
Philippines
Phone: (63-2) 9284501
Fax: (63-2) 9276662
Email: pca_mktdev@yahoo.com

SPAIN / ESPAGNE / ESPAÑA

Mr Juan Ramón Izquierdo

Jefe de Servicio
 Ministerio de Medio Ambiente y Medio Rural y
 Marino
 Laboratorio Arbitral Agroalimentario
 c/ Casiopea nº 1
 Madrid 28023
 Spain.
 Phone: +34913474961
 Fax: +34913474968
 Email: juanramon.izquierdo@mapa.es

SUDAN / SOUDAN / SUDÁN

Mr Mahgoub Ahmed Abd Elmaged El amin
 Sudanese Standard & Metrology Organization
 (SSMO) /
 General Director
 Sudanese Standard & Metrology Organization
 (SSMO) Sudan - Khartoum - Baladia st.
 P.O. Box: 13573
 Phone: + 249 183 775247 / mobile: 0912667281
 Fax: +249 183 774852
 Email mohgoubadelmagid@yahoo.com

Ms Hind Eldirdiri Mohamed Ahmed
 Sudanese Standard & Metrology Organization
 (SSMO) /
 General Director
 Sudanese Standard & Metrology Organization
 (SSMO) Sudan - Khartoum - Baladia st.
 P.O. Box: 13573
 Phone: + 249 183 775247 / mobile: 0911131205
 Fax: +249 183 774852

Mrs Amani Ismail
 Health Officer
 Environmental Health and Food Control
 Administration
 Federal Ministry of Health
 P.O. Box: +249 Khartoum
 Sudan.
 Phone: 0912969116
 Fax: 0156145620
 Email: mohmedamani@yahoo.com

SWEDEN / SUÈDE / SUECIA

Mrs Eva Lönberg
 Codex Coordinator
 National Food Administration
 Box 622, Uppsala SE 751 26
 Sweden.
 Phone: +4618175500
 Fax: +4618105848
 Email: codex@slv.se

SWITZERLAND / SUISSE / SUIZA

Mrs Stephanie Gratwohl Egg
 Head of Delegation

Political Affairs Division V
 Federal Department of Foreign Affairs
 Bundesgasse 28
 CH-3003 Bern, Switzerland
 Tel. +41 31 322 75 31
 Fax +41 31 324 10 63
 E-mail: stephanie.gratwohl@eda.admin.ch

Dr. Eric Coiffier
 Advisor
 Nestlé-Sofinol
 Rue d'Entre-Deux-Villes 12
 CH-1814 La Tour-de-Peilz, Switzerland
 Tel. +41 21 924-5678
 Fax +41-21 924 57 62
 E-mail: Eric.Coiffier@nestle.com

SYRIAN ARAB REPUBLIC / RÉPUBLIQUE ARABE SYRIENNE / REPÚBLICA DE SIRIA

Mr Mohanad Alkhyal
 Official in Alimentary Department in SASMO
 Syrian Arab Organization for Standardization and
 Metrology SASMO
 Damascus P.O. Box: 11836 - Syria.
 Phone: +963114529825, 3712214
 Fax: +963114528214
 Email: sasmo@net.sy
 asd-syria2006@maktoob.com

THAILAND / THAÏLANDE / TAILANDIA

Mrs. Oratai Silapanaporn
 Director, Office of Commodity and System Standards
 National Bureau of Agricultural Commodity and Food
 Standards
 50 Phaholyothin Road, Ladyao Chatuchak
 10900 Bangkok, Thailand.
 Phone: (662)561-2277 ext. 1401
 Fax: (662)561-3373, (662)561-3357
 Email: oratai@acfs.go.th

Mr. Adul Premprasert
 Committee of Food Processing Industry Club
 The Federation of Thai Industries
 Queen Sirikit National Convention Center
 Zone C, 4th Floor,
 60 New Rachadapisek Rd., Klongtoey
 Bangkok 10110, Thailand.
 Phone: 662-345-1167, 662-819-7470
 Fax: 662-345-1281, 662-819-7478
 Email: adul@cook.co.th

Mr. Pravit Santiwattana
 Representative of Food Processing Industry Club
 The Federation of Thai Industries

Queen Sirikit National Convention Centre
Zone C, 4th Floor
60 New Rachadapisek Rd., Klongtoey
Bangkok 10110
Thailand
Phone: 662-249-9348 til 52
Fax: 662-685-6050
Email: pravit@thaiedibleoil.com

Ms. Nalinthip Peanee
Standards Officer
National bureau of Agricultural Commodity and Food
Standards
50 Phaholyothin Road
Ladyao Chatuchak
Bangkok 10900
Thailand.
Phone: (662) 561-2277 ext 1412
Fax: (662) 561-3373, (662) 561-3357
Email: nalinthip@acfs.go.th

Miss Jeerajit Dissana
Standards Officer
National Bureau of Agricultural Commodity and Food
Standards
50 Phaholyothin Road
Ladyao Chatuchak
Bangkok 10900
Thailand.
Phone: (662) 561-2277 ext 1428
Fax: (662) 561-3373, (662) 561-3357
Email: jeerajit@acfs.go.th

TOGO

Miss Dédé Hanvi
Chef Section Contriole Qualite et Normalisation des
Denrees Alimentaires
Institut Togalais de Recherche Agronomique ITRA
BP:1163 Lome
Togo
Phone: +2282254118
Email: itra@cafe.tg

TURKEY / TURQUIE / TURQUÍA

Mr Omer Faruk Doğan
Deputy Undersecretary
Undersecretariat for Foreign Trade
Inonu Bulvari No: 36, 06100-Emek, Ankara
Turkey.
Phone: +90-312-212 87 31
Fax: +90-312-212 87 38
Email: doganof@dtm.gov.tr

Mr Tarik Sonmez
Deputy General Director
Undersecretariat for Foreign Trade – General
Directorate of Standardization for Foreign Trade

Inonu Bulvari No: 36, 06100-Emek, Ankara
Turkey.
Phone: +90-312-212 58 96
Fax: +90-312-212 87 68
Email: sonmezt@dtm.gov.tr

Mr Murat Yazici
Chief Of Division
Undersecretariat for Foreign Trade – General
Directorate of Exports
Inonu Bulvari No: 36, 06100-Emek, Ankara
Turkey.
Phone: +90-312-204 76 81
Fax: +90-312-212 88 81
Email: yazicim@dtm.gov.tr

Dr Fahri Yemiscioglu
Assistant Prof. Dr.
Aegean Exporters Unions
Ege University Engineering Faculty Food Engineering
Department Bornova
Izmir 35100
Turkey.
Phone: +90.232.3884000/3004
Fax: +90.232.3427592
Email: fahri.yemiscioglu@ege.edu.tr

Ms Uslu Hatice
Engineer
Ministry of Agriculture and Rural Affairs-General
Directorate of Protection and Control
Tarım ve Köyişleri Bakanlığı, Koruma ve Kontrol
Genel Müdürlüğü,
Akay Cad. No:3 Bakanlıklar, Ankara
Turkey.
Phone: +90-312-4174176 exp 6210
Fax: +903124254416
Email: huslu@kkgm.gov.tr

UGANDA / OUGANDA

Ms Stella Apolot
Senior Standards Officer
UNBS, P.O Box 6329
Kampala
Uganda
Phone: +256772884000
Fax: +256414286123
Email: stella.apolot@unbs.go.ug

UNITED KINGDOM / ROYAUME-UNI / REINO UNIDO

Mr. Paul Nunn
Senior Scientific Officer
Food Standards Agency
Room 6C, Aviation House, 125 Kingsway
London WC2B 6NH
United Kingdom.
Phone: +44 (0)20 7276 8160
Fax: +44 (0)20 7276 8193
Email: paul.nunn@foodstandards.gsi.gov.uk

UNITED STATES OF AMERICA / ÉTATS-UNIS D'AMÉRIQUE / ESTADOS UNIDOS DE AMÉRICA

Dr Dennis Keefe
Director, Senior Science and Policy Staff, Office of Food Additive Safety
Center for Food Safety and Applied Nutrition, US Food and Drug Administration
5100 Paint Branch Parkway
College Park, MD 20740
United States of America.
Phone: +301-436-1284
Fax: +301-436-2972
Email: dennis.keefe@fda.hhs.gov

Dr Kathleen Warner
Research Scientist - US Department of Agriculture
National Center for Agricultural Utilization Research
1815 North University Street
Peoria, Illinois 61604
United States of America.
Tel: + 309-681-6584
Fax: + 309-681-6668
Email: kathleen.warner@ars.usda.gov

Mr. Paul Trupo
Trade Specialist
U.S. Department of Agriculture
1400 Independence Ave., SW
Room 5932 (Stop 1014)
Washington D.C. 20250
United States of America.
Phone: +1-202-720-1335
Fax: +1-202-720-0433
Email: Paul.Trupo@fas.usda.gov

Mr Syed Amjad Ali
International Issues Analyst
U.S. Codex Officer
U.S. Department of Agriculture
1400 Independence Avenue, SW
Room 4861-South Building
Washington, DC 20250
Tel: + 202 205-0574
Fax: + 202 720-3157
E-Mail: Syed.Ali@fsis.usda.gov

Dr Ritu Nalubola
Senior Food Technologist, Office of Nutrition, Labeling, and Dietary Supplements
Center for Food Safety and Applied Nutrition, US Food and Drug Administration
5100 Paint Branch Parkway
College Park, MD 20740
United States of America.
Phone: +301-436-1432
Fax: +301-436-2636
Email: Ritu.Nalubola@fda.hhs.gov

Mr Liam Rogers
Technical Committee Chairman
National Institute of Oilseed Products
Hudson Tank Terminals Corporation
173 Export Street
Newark, NJ 07114
United States of America.
Phone: +973-465-1115
Fax: +973-465-9053
Email: Ljjrogers@aol.com

Ms Jane Earley
Senior Partner
Earley & White Consulting Group, LLC
1737 King Street, Suite 330
Alexandria, VA 22314
United States of America.
Phone: 703-739-9090 x 121
Fax: 703-739-9098
Email: jearley@eandwconsulting.com

VIETNAM / VIETNÁM

Dr Vu Ngoc Quynh
Director of Vietnam Codex Office
General Secretary of Vietnam National Codex Committee
Vietnam National Codex Committee
70 Tran Hung Dao, Street
Hanoi 84.4
Vietnam.
Phone: 84.4.39426605
Fax: 84.4.38222520
Email: vnquynhcodex@tcvn.gov.vn

**INTERNATIONAL GOVERNMENTAL
ORGANISATION / ORGANISATION
GOUVERNEMENTALE
INTERNATIONALE / ORGANIZACIONES
INTERNACIONALES
GUBERNAMENTALES**

**INTERNATIONAL OLIVE COUNCIL (IOC) /
CONSEIL OLEICOLE INTERNATIONAL**

Mr Habib Essid
Deputy Director
International Olive Council
C/ Principe de Vergara, 154
Madrid 28002
Spain.
Phone: 34 91 590 36 51
Fax: 34 91 563 12 63
Email: iooc@internationaloliveoil.org

**INTERNATIONAL NON-GOVERNMENTAL
ORGANISATION / ORGANISATION NON-
GOUVERNEMENTALE
INTERNATIONALE / ORGANIZACIONES
INTERNACIONALES NO
GUBERNAMENTALES**

ASEAN VEGETABLE OILS CLUB

Mr Danilo M. Coronacion
Chairman
ASEAN Vegetable Oils Club
c/o Malaysian Palm Oil Association
12th Floor, Bangunan Getah Asli
148 Jalan Ampang
50450 Kuala Lumpur
Malaysia.
Phone: +603-27105677
Fax: +603-27105679
Email: tanbh@mpoa.org.my,
dcoronacion@ciif.ph

**FEDERATION OF OILS SEEDS AND FATS
ASSOCIATIONS (FOSFA INTERNATIONAL)**

Dr John Hancock
Technical Manager
FOSFA International
20 St Dunstan's Hill
London EC3R 8NQ
United Kingdom.
Phone: +44 20 7283 5511
Fax: +44 20 7623 1310
Email: john.hancock@fosfa.org

AMERICAN OIL CHEMISTS' SOCIETY (AOCS)

Richard Cantrill
AOCS Technical Director
2710 S Boulder Drive, Urbana IL 61803
United States of America
Phone : +1 217 693 4830
Fax: +1 217 351 8091
Email: Richard.Cantrill@aoacs.org

**BIOTECHNOLOGY INDUSTRY ORGANIZATION
(BIO)**

Dr. Sunkyoung Yoon
Manager - Regulatory Affairs
BIO (Biotechnology Industry Organization)
Monsanto Singapore Co.
151 Lorong Chuan - #06-08 New Tech Park
Singapore 556741
Phone : +65 6488 5670
Fax: +65 6488 5648
Email: sun.kyoung.yoon@monsanto.com

FAO

Dr Annika Wennberg
FAO JECFA Secretary
Nutrition and Consumer Protection Division
Food and Agriculture Organization of the United
Nations
Viale delle Terme di Caracalla
00153 Rome, Italy
Telephone: + 39 06 5705 3283
Facsimile: + 39 06 5705 4593
E-mail: Annika.Wennberg@fao.org

Ms Mary Kenny
Nutrition Officer
Food Quality and Standards Service
Nutrition and Consumer Protection Division
Food and Agriculture Organization of the United
Nations (FAO)
Rome, Italy
Tel: + 39 06 570 53653
Fax: + 39 06 570 54593
Email: Mary.Kenny@fao.org

**CODEX SECRETARIAT / SECRETARIAT
DU CODEX / SECRETARIADO DEL
CODEX**

Ms Selma H. Doyran
Senior Food Standards Officer
Joint FAO/WHO Food Standards Programme.
FAO Viale delle Terme di Caracalla
00100 Rome, Italy.
Phone: +39 06 5705 5826
Fax: +39 06 5705 4593
Email: selma.doyran@fao.org

Mr Masashi Kusakawa
 Food Standards Officer
 Joint FAO/WHO Food Standards Programme
 FAO Viale delle Terme di Caracalla
 00100 Rome, Italy.
 Phone: +39 06 57054796
 Fax: +39 06 5705 54593
 Email: masashi.kusakawa@fao.org

**MALAYSIAN SECRETARIAT /
 SECRETARIAT MALAISIE /
 SECRETARIADO DE MALASIA**

**Technical Team / Équipe technique /
 Equipo Técnico**

Dr. Tee E Siong
 Nutrition Consultant
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603 7728 7287
 Fax: +603 7728 7426
 Email: president@nutriweb.org.my

Ms Shamsinar Abdul Talib
 Deputy Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3508
 Fax: +603-8889 3815
 Email: shamsinar@moh.gov.my

Ms Zaleenah Zainuddin
 Senior Principal Assistant Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3518
 Fax: +603-8889 3815
 Email: zaleenah@moh.gov.my

Ms Ezlin Abdul Khalid
 Assistant Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3568
 Fax: +603-8889 3815
 Email: ezlin@moh.gov.my

Ms Shariza Zainol Rashid
 Assistant Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3217
 Fax: +603-8889 3815
 Email: shariza_z@moh.gov.my

**Logistics Team / Équipe logistique /
 Equipo logístico**

Ms Nik Shabnam Nik Mohd Salleh
 Deputy Director (Standards)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3510
 Fax: +603-8889 3815
 Email: shabnam@moh.gov.my

Dr Mohd Yusof Hj. Ibrahim
 Sabah State Health Department
 Level 1, Federal House
 Mat Salleh Road
 88814 Kota Kinabalu, Sabah
 Malaysia.
 Phone: +6088-249 202
 Fax: +6088-249 202
 Email: sofy1008@gmail.com

Ms Norlida Md Darus
 Senior Principal Assistant Director
 Public Health Division
 Sabah State Health Department
 Level 3, Rumah Persekutuan
 Jalan Mat Salleh
 88590 Kota Kinabalu, Sabah
 Malaysia.
 Phone : +6088-265960
 Fax: +6088-217740
 Email: norli_darus@sbh.moh.gov.my

Ms Norrani Eksan
 Senior Principal Assistant Director (Codex)
 Food Safety and Quality Division
 Ministry of Health Malaysia
 Level 3, Block E7, Parcel E
 Federal Government Administrative Centre
 62590 Putrajaya, Malaysia.
 Phone: +603-8883 3511
 Fax: +603-8889 3815
 Email: norrani@moh.gov.my

Ms Sharizat Ahmad
Principal Assistant Director (Codex)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3517
Fax: +603-8889 3815
Email: sharizat@moh.gov.my

Ms Norzifah Abu Khair
Senior Assistant Director (Codex)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3549
Fax: +603-8889 3815
Email: norzifah@moh.gov.my

Mr Sazali Harun
Senior Assistant Director (Enforcement – Import Control)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3536
Fax: +603-8889 3815
Email: sazali.harun@moh.gov.my

Ms Raizawanis Abd Rahman
Assistant Director (Standard)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3529
Fax: +603-8889 3815
Email: raizawanis@moh.gov.my

Ms Linza Md Yassin
Assistant Director (Codex)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3549
Fax: +603-8889 3815
Email: linza@moh.gov.my

Ms Wong Shih Shih
Assistant Director (Codex)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3548
Fax: +603-8889 3815
Email: wongshihshih@moh.gov.my

Ms Nor Ismawan Othman
Assistant Director (Monitoring, Research and Risk Analysis)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3563
Fax: +603-8889 3815
Email: ismawan@moh.gov.my

Mr Muhammad Izwan Ahmad
Assistant Director (Enforcement – Import Control)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3537
Fax: +603-8889 3815
Email: izwan@moh.gov.my

Ms Mazura Abdullah
Assistant Director (Codex)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3555
Fax: +603-8889 3815
Email: mazura@moh.gov.my

Mr Asri Hashim
Assistant Director (Standard)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3539
Fax: +603-8889 3815
Email: asri_hashim@moh.gov.my

Mr Che Saipolliza Deraman
Principal Assistant Environmental Health Officer
(Enforcement - Domestic Control)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3554
Fax: +603-8889 3815
Email: saipolliza@moh.gov.my

Mr Joseph Leong Ah Poh
Principal Assistant Environmental Health Officer
(Enforcement - Domestic Control)
Food Safety and Quality Division
Ministry of Health Malaysia
Level 3, Block E7, Parcel E
Federal Government Administrative Centre
62590 Putrajaya, Malaysia.
Phone: +603-8883 3556
Fax: +603-8889 3815
Email: joseph@moh.gov.my

Dr N. Jegarajan
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265960 ext. 506
Fax: +6088-726329
Email: drnjegaran@sbh.moh.gov.my

Dr Christina Rundi
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-217 740
Email: christinarundi@sbh.moh.gov.my

Dr George Mathew
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-782 349
Fax: +6088-782 349

Mr Jugin Mining
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah, Malaysia.
Phone: +6088-245 105
Fax: +6088-245 107
Email: jugin@sbh.moh.gov.my

Ms Sitti Hj Aralas
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-217 740

Mr Abdul Hadi Bin Ismail
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-217 740

Ms Chang Shui Han
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-217 740

Ms Nurhaida Bt Abd. Malek
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-217 740
Email: nurhaida_am@sbh.moh.gov.my

Mr Nelbon Tulis
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-265 960
Fax: +6088-221 477
Email: nelbontm@sbh.moh.gov.my

Mr Awang Anak Selamat
Sabah State Health Department
Level 1, Federal House
Jalan Mat Salleh
88814 Kota Kinabalu, Sabah
Malaysia.
Phone: +6088-245 105
Fax: +6088-245 107
Email: jaw.awg58@yahoo.com.my

**DRAFT AMENDMENT TO THE CODEX STANDARD FOR NAMED
VEGETABLE OILS (RICE BRAN OIL)
(At Step 8 of the Procedure)**

2. DESCRIPTION

2.1 Product Definition

2.1.15 Rice bran oil (rice oil) is derived from the bran of rice (*Oryza sativa* L).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples (expressed as percentage of total fatty acids)

| Fatty acid | Rice bran oil |
|-------------------|----------------------|
| C6:0 | ND |
| C8:0 | ND |
| C10:0 | ND |
| C12:0 | ND-0.2 |
| C14:0 | 0.1-0.7 |
| C16:0 | 14-23 |
| C16:1 | ND-0.5 |
| C17:0 | ND |
| C17:1 | ND |
| C18:0 | 0.9-4.0 |
| C18:1 | 38-48 |
| C18:2 | 29-40 |
| C18:3 | 0.1-2.9 |
| C20:0 | ND-0.9 |
| C20:1 | ND-0.8 |
| C20:2 | ND |
| C22:0 | ND-0.5 |
| C22:1 | ND |
| C22:2 | ND |
| C24:0 | ND-0.6 |
| C24:1 | ND |
| | |

OTHER QUALITY AND COMPOSITION FACTORS

2. COMPOSITION CHARACTERISTICS

2.10 The gamma oryzanols in crude rice bran oil should be in the range of 0.9-2.1 %.

3. CHEMICAL AND PHYSICAL CHARACTERISTICS

Table 2: Chemical and physical characteristics of crude vegetable oils

| | Rice bran oil |
|--|----------------------|
| Relative density (20°C/water at 20°C) | 0.910 – 0.929 |
| Refractive index (ND 40⁰ C) | 1.460 – 1.473 |
| Saponification value (mg KOH/g oil) | 180 – 199 |
| Iodine value | 90-115 |
| Unsaponifiable matter (g/kg) | ≤ 65 |

4. IDENTITY CHARACTERISTICS

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples as percentage of total sterols

| | Rice bran oil |
|------------------------------|----------------------|
| Cholesterol | ND - 0.5 |
| Brassicasterol | ND |
| Campesterol | 11.0 – 35.0 |
| Stigmasterol | 6.0 – 40.0 |
| Beta-sitosterol | 25.0 – 67.0 |
| Delta-5-avenasterol | ND – 9.9 |
| Delta-7 stigmastenol | ND – 14.1 |
| Delta-7-avenasterol | ND – 4.4 |
| Others | ND |
| Total Sterols (mg/kg) | 10500-31000 |

Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples (mg/kg)

| | Rice bran oil |
|--------------------------|----------------------|
| Alpha-tocopherol | 49-583 |
| Beta-tocopherol | ND – 47 |
| Gamma-tocopherol | ND – 212 |
| Delta-tocopherol | ND-31 |
| Alpha-tocotrienol | ND – 627 |
| Gamma-tocotrienol | 142 – 790 |
| Delta-tocotrienol | ND – 59 |
| Total (mg/kg) | 191 - 2349 |

Method of Analysis for Gamma Oryzanols

1. Definition

This method is used to determine gamma oryzanol content (%) in oils from spectrophotometer absorption measurements at the wavelength of maximum absorption near 315nm.

2. Scope

Applicable to crude rice bran oil.

3. Apparatus

- 3.1. Spectrophotometer - for measuring extinction in the ultraviolet between 310 and 320 nm.
- 3.2. Rectangular quartz cuvettes - having an optical light path of 1 cm.
- 3.3. Volumetric flask - 25mL.
- 3.4. Filter paper - Whatman no.2, or equivalent.

4. Reagents

- 4.1. n-Heptane - Spectrophotometrically pure.

5. Procedure

- 5.1. Before using, the spectrophotometer should be properly adjusted to a zero reading filling both the sample cuvette and the reference cuvette with n-Heptane.
- 5.2. Filter the oil sample through filter paper at ambient temperature.
- 5.3. Weigh accurately approximately 0.02g of the sample so prepared into a 25mL volumetric flask, make up to the mark with n-Heptane.
- 5.4. Fill a cuvette with the solution obtained and measure the extinction at the wavelength of maximum absorption near 315nm, using the same solvent as a reference.
- 5.5. The extinction values recorded must lie within the range 0.3-0.6. If not, the measurements must be repeated using more concentrated or more diluted solutions as appropriate.

6. Calculation

Calculate gamma oryzanol content as follows:

$$\text{Gamma oryzanol content, \%} = 25 \times (1 / W) \times A \times (1 /$$

E) Where -

W = mass of sample, g

A = extinction (absorbance) of the
solution

E = specific extinction $E_{1\text{cm}}^{1\%} = 359$

PROPOSED DRAFT AMENDMENT TO THE RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK

(At Step 5 of the Procedure)

2.1.3 Contamination

Undesirable contamination may be from residues of a previous material handled in the equipment, dirt, rain, sea water or through the accidental addition of a different product. In storage installations and ships, particular difficulty may be experienced ensuring cleanliness of valves and pipelines, particularly where they are common for different tanks. Contamination is avoided by good design of the systems, adequate cleaning routines and an effective inspection service, and on ships by the carriage of oils in segregated tank systems in which the previous cargoes are included in the Codex List of Acceptable Previous Cargoes at Appendix 2 of this Code.

Contamination is also avoided by the rejection of tanks which have carried as a last cargo products which are included on the Codex List of Banned Immediate Previous Cargoes at Appendix 3 of this Code.

Previous cargoes not on the Codex Lists of Acceptable or Banned cargoes are only to be used if agreed upon by competent authorities of the importing countries.

Until both lists are completed, practitioners may find the lists and data referred to in the Bibliography at Appendix 4 provide relevant guidance.

When determining whether a substance is acceptable as an immediate previous cargo, competent authorities should consider the following criteria:

| | |
|----------|---|
| 1 | The substance is transported/stored in an appropriately designed system; with adequate cleaning routines, including the verification of the efficacy of cleaning between cargoes, followed by effective inspection and recording procedures. |
| 2 | Residues of the substance in the subsequent cargo of fat or oil should not result in adverse human health effects. The ADI (or TDI) of the substance should be greater than or equal to 0.1 mg/kg bw/day. Substances for which there is no numerical ADI (or TDI) should be evaluated on a case by case basis. |
| 3 | The substance should not be or contain a known food allergen, unless the identified food allergen can be adequately removed by subsequent processing of the fat or oil for its intended use. |
| 4 | Most substances do not react with edible fats and oils under normal shipping and storage conditions. However, if the substance does react with edible fats and oils, any known reaction products must comply with criteria 2 and 3. |

**PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS
PALM KERNEL OLEIN AND PALM KERNEL STEARIN (N09-2007)****(At Step 5 of the Procedure)****2. DESCRIPTION****2.1 Product definitions**

(Note: synonyms are in brackets immediately following the name of the oil)

- 2.1.1 **Arachis oil** (peanut oil; groundnut oil) is derived from groundnuts (seeds of *Arachis hypogaea* L.).
- 2.1.2 **Babassu oil** is derived from the kernel of the fruit of several varieties of the palm *Orbignya spp.*
- 2.1.3 **Coconut oil** is derived from the kernel of the coconut (*Cocos nucifera* L.).
- 2.1.4 **Cottonseed oil** is derived from the seeds of various cultivated species of *Gossypium spp.*
- 2.1.5 **Grapeseed oil** is derived from the seeds of the grape (*Vitis vinifera* L.).
- 2.1.6 **Maize oil** (corn oil) is derived from maize germ (the embryos of *Zea mays* L.).
- 2.1.7 **Mustardseed oil** is derived from the seeds of white mustard (*Sinapis alba* L. or *Brassica hirta* Moench), brown and yellow mustard (*Brassica juncea* (L.) Czernajew and Cossen) and of black mustard (*Brassica nigra* (L.) Koch).
- 2.1.8 **Palm kernel oil** is derived from the kernel of the fruit of the oil palm (*Elaeis guineensis*).
- 2.1.9 **Palm kernel olein** is the liquid fraction derived from fractionation of palm kernel oil (described above).
- 2.1.10 **Palm kernel stearin** is the solid fraction derived from fractionation of palm kernel oil (described above)
- 2.1.11 **Palm oil** is derived from the fleshy mesocarp of the fruit of the oil palm (*Elaeis guineensis*).
- 2.1.12 **Palm olein** is the liquid fraction derived from the fractionation of palm oil (described above).
- 2.1.13 **Palm stearin** is the high-melting fraction derived from the fractionation of palm oil (described above).
- 2.1.14 **Palm superolein** is a liquid fraction derived from palm oil (described above) produced through a specially controlled crystallization process to achieve an iodine value of 60 or higher.
- 2.1.15 **Rapeseed oil** (turnip rape oil; colza oil; ravison oil; sarson oil; toria oil) is produced from seeds of *Brassica napus* L., *Brassica campestris* L., *Brassica juncea* L. and *Brassica tournefortii* Gouan species.
- 2.1.16 **Rapeseed oil - low erucic acid** (low erucic acid turnip rape oil; low erucic acid colza oil; canola oil) is produced from low erucic acid oil-bearing seeds of varieties derived from the *Brassica napus* L., *Brassica campestris* L. and *Brassica juncea* L., species.
- 2.1.17 **Safflowerseed oil** (safflower oil; carthamus oil; kurdee oil) is derived from safflower seeds (seeds of *Carthamus tinctorious* L.).
- 2.1.18 **Safflowerseed oil - high oleic acid** (high oleic acid safflower oil; high oleic acid carthamus oil; high oleic acid kurdee oil) is produced from high oleic acid oil-bearing seeds of varieties derived from *Carthamus tinctorious* L.
- 2.1.19 **Sesameseed oil** (sesame oil; gingelly oil; benne oil; ben oil; till oil; tillie oil) is derived from sesame seeds (seeds of *Sesamum indicum* L.).
- 2.1.20 **Soya bean oil** (soybean oil) is derived from soya beans (seeds of *Glycine max* (L.) Merr.).
- 2.1.21 **Sunflowerseed oil** (sunflower oil) is derived from sunflower seeds (seeds of *Helianthus annuus* L.).

2.1.22 **Sunflowerseed oil - high oleic acid** (high oleic acid sunflower oil) is produced from high oleic acid oil-bearing seeds of varieties derived from sunflower seeds (seeds of *Helianthus annuus* L.).

2.1.23 **Sunflowerseed oil - mid oleic acid (mid-oleic acid sunflower oil)** is produced from mid-oleic acid oil-bearing sunflower seeds (seeds of *Helianthus annuus* L.).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.3 Slip point

Palm olein not more than 24°C

Palm stearin not less than 44°C

Palm superolein not more than 19.5°C

Palm kernel olein between 21 to 26 °C

Palm kernel stearin between 31 to 34 °C

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples¹ (expressed as percentage of total fatty acids) (see Section 3.1 of the Standard)

| Fatty acid | Palm kernel olein² | Palm kernel stearin² |
|-------------------|--------------------------------------|--|
| C6:0 | 0.0-0.6 | ND-0.1 |
| C8:0 | 2.9-5.4 | 1.5-3.0 |
| C10:0 | 2.9-4.5 | 2.5-3.0 |
| C12:0 | 39.7-46.5 | 52.0-59.0 |
| C14:0 | 11.5-15.5 | 20.0-25.0 |
| C16:0 | 7.1-10.6 | 7.2-9.2 |
| C16:1 | ND-0.1 | ND |
| C17:0 | ND | ND |
| C17:1 | ND | ND |
| C18:0 | 1.8-3.0 | 1.0-2.5 |
| C18:1 | 14.6-24.6 | 4.5-8.0 |
| C18:2 | 2.6-4.3 | 0.5-1.5 |
| C18:3 | ND-0.3 | ND |
| C20:0 | ND-0.5 | ND-0.5 |
| C20:1 | ND | ND |
| C20:2 | ND | ND |
| C22:0 | ND | ND |
| C22:1 | ND | ND |
| C22:2 | ND | ND |
| C24:0 | ND | ND |
| C24:1 | ND | ND |

¹ Data taken from species as listed in Section 2.

² Fractioned Product from palm kernel oil.

OTHER QUALITY AND COMPOSITIONAL FACTORS

1. Quality Characteristics

Maximum level

1.5 Iron (Fe):

| | |
|----------------------------|------------------|
| Refined oils | 1.5 mg/kg |
| Virgin oils | 5.0 mg/kg |
| <u>Palm kernel stearin</u> | <u>7.0 mg/kg</u> |

Table 2: Chemical and physical characteristics of crude vegetable oils (see Appendix of the Standard)

| | Palm kernel olein ³ | Palm kernel stearin ³ |
|--|--------------------------------|----------------------------------|
| Relevant density (x°C/water at 20°C) | 0.906-0.909 x=40°C | 0.902-0.908 x=40°C |
| Apparent density (g/ml) | 0.904-0.907 | 0.904-0.906 |
| Refractive index (ND 40°C) | 1.451-1.453 | 1.449-1.451 |
| Saponification value (mg KOH/g oil) | 231-244 | 244-255 |
| Iodine value | 20-28 | 4-8.5 |
| Unsaponifiable matter (g/kg) | <15 | < 15 |

Table 3: Levels of desmethylsterols in crude oils from authentic samples¹ as a percentage of total sterol (see Appendix 1 of the Standard)

| | Palm kernel olein ³ | Palm kernel stearin ³ |
|-----------------------------|--------------------------------|----------------------------------|
| Cholesterol | 1.5-1.9 | 1.4-1.7 |
| Brassicasterol | ND-0.2 | ND-2.2 |
| Campesterol | 7.9-9.1 | 8.2-9.7 |
| Stigmasterol | 13.4-14.7 | 14.1-15.0 |
| Beta-sitosterol | 67.1-69.2 | 67.0-70.0 |
| Delta-5-avenasterol | 3.3-4.6 | 3.3-4.1 |
| Delta-7-stigmasterol | ND-0.6 | ND-0.3 |
| Delta-7-avenasterol | ND-0.5 | ND-0.3 |
| Others | 2.9-3.7 | 1.0-3.0 |
| Total sterols | 816-1339 | 775-1086 |

ND – Non-detectable, defined as $\leq 0.05\%$ ¹ Data taken from species as listed in Section 2.³ Fractionated product from palm kernel oil.

Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples⁴ (mg/kg) (see Appendix 1 of the Standard)

| | Palm kernel olein³ | Palm kernel stearin³ |
|--------------------------|--------------------------------------|--|
| Alpha-tocopherol | ND-11 | ND-10 |
| Beta-tocopherol | ND-6 | ND-2 |
| Gamma-tocopherol | ND-3 | ND-1 |
| Delta-tocopherol | ND-4 | ND |
| Alpha-tocotrienol | ND-70 | ND-73 |
| Gamma-tocotrienol | 1-10 | ND-8 |
| Delta-tocotrienol | ND-2 | ND-1 |
| Total (mg/kg) | ND-90 | ND-89 |

ND – Non-detectable.

⁴ Data taken from species as listed in Section 2.

³ Fractionated product from palm kernel oil.

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APPENDIX V

PROPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES
(AT STEP 3)

List of acceptable previous cargoes

| Substance (synonyms) | CAS Number |
|---|-------------------|
| 2,3-Butanediol (2,3-butylene glycol) | 513-85-9 |
| iso-Butanol (2-methyl-1-propanol) | 78-83-1 |
| Calcium ammonium nitrate solution | 6484-52-2 |
| Calcium nitrate (CN-9) solution | 35054-52-5 |
| Cyclohexanol | 108-93-0 |
| Cyclohexanone | 108-94-1 |
| Fatty acid methyl esters | |
| These include for example, | |
| e.g. Methyl laurate (methyl dodecanoate) | 111-82-0 |
| Methyl oleate (methyl octadecenoate) | 112-62-9 |
| Methyl palmitate (methyl hexadecanoate) | 112-39-0 |
| Methyl stearate (methyl octadecanoate) | 112-61-8 |
| Hydrogen peroxide | |
| Kaolin slurry | 1332-58-7 |
| 1,3 -Propylene glycol | 504-63-2 |
| Unfractionated fatty acid mixture or mixtures of fatty acids from natural oils and Fats | |
| Unfractionated fatty alcohol mixture or mixtures of fatty alcohols from natural oils and fats | |
| Unfractionated fatty esters or mixtures of fatty esters from natural oils and fats | |
| Vegetable oil – epoxidised | |
| Fructose | |

**PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR OLIVE OILS AND
OLIVE POMACE OILS
(At Step 3 of the Procedure)**

| | Virgin olive oils | Olive oil Refined olive oil | Olive pomace oil Refined olive pomace oil |
|-------|--------------------------|--|--|
| C18:3 | 0.0-1.0* | 0.0-1.0 | 0.0-1.0 |

[* Virgin olive oil may exceed the level for linolenic acid (C18:3) up to 1.1% due to climatic, geographic and varietal influences. Virgin olive oil that exceeds the limit for linolenic acid will be considered to be in compliance with the Standard if the authenticity can be verified through further testing including stigmastadiene up to 0.05 mg/kg, Δ ECN42 up to 0.1 and campesterol up to 3.5% total sterols. Data that demonstrate natural variation should be provided.]

OR

[* It is recognized that authentic virgin olive oils may exceed the level for linolenic acid (C18:3) due to climatic, geographic and varietal influences. Virgin olive oil that exceeds the limit for linolenic acid, up to a maximum of 1.2%, are considered to be in compliance with the Standard if stigmastadiene \leq 0.05mg/kg and Δ ECN42 \leq 0.1]

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APPENDIX VII

**AMENDMENTS TO THE SECTIONS OF FOOD ADDITIVES
IN THE STANDARDS FOR FATS AND OILS**

CODEX STANDARD FOR FAT SPREADS AND BLENDED SPREADS (CODEX STAN 256-2003)

4. FOOD ADDITIVES

Only those food additive classes listed below are technologically justified and may be used in products covered by this Standard. Within each additive class only those food additives listed below, or referred to, may be used and only for the functions, and within the limits, specified.

Additive Functional Classes

- a. Acidity regulators
- b. Antifoaming agents
- c. Antioxidants
- d. Colours
- e. Emulsifiers
- f. Flavour enhancers
- g. Packing gases
- h. Preservatives
- i. Stabilizers
- j. Thickeners

Acidity regulators, antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, packing gases, preservatives, stabilizers and thickeners used in accordance with Table 3 of the Codex General Standard for Food Additives are acceptable for use in foods conforming to this Standard.

| 4.1 Acidity Regulators | | |
|--|-----------------------------|----------------------------------|
| INS No. | Additive | Maximum Use Level |
| 262(ii) | Sodium Diacetate | 1,000 mg/kg |
| 334; 335(i), 335(ii); 336(i), 336(ii); 337 | Tartrates | 100 mg/kg (as tartaric acid) |
| 338; 339(i), 339(ii), 339(iii); 340(i), 340(ii), 340 (iii); 341(i), 341(ii), 341(iii); 342(i), 342(ii); 343(i), 343(ii), 343(iii); 450(i), 450(ii), 450(iii), 450(v), 450(vi); 450(vii), 451(i), 451(ii); 452(i), (ii), (iii), (iv) (v); 542 | Phosphates | 1000 mg/kg (as Phosphorus) |
| 4.2 Antifoaming agent | | |
| INS No. | Additive | Maximum Use Level |
| 900a | Polydimethylsiloxane | 10 mg/kg (Frying purposes, only) |
| 4.3 Antioxidants | | |
| INS No. | Additive | Maximum Use Level |
| 304, 305 | Ascorbyl esters | 500 mg/kg (As ascorbyl stearate) |
| 307 | Tocopherols | 500 mg/kg |
| 307a | Tocopherol, d-alpha- | 500 mg/kg (Singly or in |

| | | |
|-------------|--------------------------------------|--|
| 307b | Tocopherol concentrate, mixed | combination) |
| 307c | Tocopherol, dl-<i>alpha</i> | |
| 310 | Propyl Gallate | 200 mg/kg (Fat or oil basis) Singly or in combination |
| 319 | Tertiary-Butylhydroquinone | |
| 320 | Butylated Hydroxyanisole | |
| 321 | Butylated Hydroxytoluene | |
| 384 | Isopropyl Citrates | 100 mg/kg |
| 385, 386 | EDTAs | 100 mg/kg (as anhydrous calcium disodium EDTA) |
| 388, 389 | Thiodipropionates | 200 mg/kg (As thiodipropionic acid) |

4.4 Colours

| INS No. | Additive | Maximum Use Level |
|------------------|---|-------------------------------------|
| 120 | Carmines | 500 mg/kg |
| 150b | Caramel Colour Class II | 500 mg/kg |
| 150c | Caramel Colour Class III | 500 mg/kg |
| 150d | Caramel Colour Class IV | 500 mg/kg |
| 160a(ii) | Carotenes, Vegetable | 1000 mg/kg |
| 100(i) | Curcumin | 10 mg/kg |
| 101(i), 101(ii) | Riboflavins | 300 mg/kg |
| 160a(i) | Beta-carotene (synthetic) | 35 mg/kg (Singly or in combination) |
| 160a(iii) | <u>beta-Carotene (<i>Blakeslea trispora</i>)</u> | |
| 160e | beta-Apo-8'-Carotenal | |
| 160f | Beta-Apo-8'-Carotenoic Acid, methyl or ethyl ester | |
| 160b(i) | <u>Annatto extracts, bixin-based</u> | 100 mg/kg (as bixin) |

4.5 Emulsifiers

| INS No. | Additive | Maximum Use Level |
|-------------------------|--|--|
| 472e | Diacetyltartaric and Fatty Acid Esters of Glycerol | 10,000 mg/kg |
| 475 | Polyglycerol Esters of Fatty Acids | 5000 mg/kg |
| 476 | Polyglycerol Esters of Interesterified Ricinoleic Acid | 4000 mg/kg |
| 432, 433, 434, 435, 436 | Polysorbates | 10,000 mg/kg (Singly or in combination) |
| 477 | Propylene Glycol Esters of Fatty Acids | 20,000 mg/kg |
| 491, 492, 493, 494, 495 | Sorbitan Esters of Fatty Acids | 10,000 mg/kg (Singly or in combination) |
| 481(i), 482(i) | Stearoyl-2-Lactylates | 10,000 mg/kg (Singly or in combination) |
| 484 | Stearyl Citrate | 100 mg/kg (Fat or oil basis) |
| 474 | Sucroglycerides | 10,000 mg/kg |
| 473 | Sucrose Esters of Fatty Acids | 10,000 mg/kg |

| | | |
|--|--|--|
| 479 | Thermally oxidized soya bean oil interacted with mono and diglycerides of fatty acids) | 5,000 mg/kg (In fat emulsions for frying or baking purpose, only.) |
| 4.6 Flavours | | |
| Natural flavouring substances and artificial flavouring substances | | |
| 4.7 Preservatives | | |
| INS No. | Additive | Maximum Use Level |
| 200, 201, 202, 203 | Sorbates | 2,000 mg/kg (Singly or in combination (as sorbic acid) |
| 210, 211, 212, 213 | Benzoates | 1,000 mg/kg (Singly or in combination as benzoic acid) |
| If used in combination, the combined use shall not exceed 2000 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg | | |
| 4.8 Stabilizers and Thickeners | | |
| INS No. | Additive | Maximum Use Level |
| 405 | Propylene Glycol Alginate | 3,000 mg/kg |

CODEX STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999)

4. FOOD ADDITIVES

4.1 No food additives are permitted in virgin or cold pressed oils.

4.2 Flavours

Natural flavouring and their identical synthetic equivalents, and other synthetic flavours, except those which are known to represent a toxic hazard.

| | | |
|--|---|---|
| 4.3 Antioxidants | | |
| INS No. | Additive | Maximum Use Level |
| 304 | Ascorbyl palmitate | 500 mg/kg (Singly Individually or in combination) |
| 305 | Ascorbyl stearate | |
| 307a | <u>Tocopherol, d-alpha-</u> | 300 mg/kg (Singly or in combination) |
| 307b | <u>Tocopherol concentrate, mixed</u> | |
| 307c | <u>Tocopherol, dl-alpha</u> | |
| 306 | Mixed tocopherols concentrate | GMP |
| 307 | Alpha-tocopherol | GMP |
| 308 | Synthetic gamma-tocopherol | GMP |
| 309 | Synthetic delta-tocopherol | GMP |
| 310 | Propyl gallate | 100 mg/kg |
| 319 | Tertiary butyl hydroquinone (TBHQ) | 120 mg/kg |
| 320 | Butylated hydroxyanisole (BHA) | 175 mg/kg |
| 321 | Butylated hydroxytoluene (BHT) | 75 mg/kg |
| Any combination of gallates, BHA, BHT, or TBHQ not to exceed 200 mg/kg within individual limit | | |
| 389 | Dilauryl thiodipropionate | 200 mg/kg |
| 4.3 Antioxidant synergists | | |

| INS No. | Additive | Maximum Use Level |
|--|---|---|
| 330 | Citric acid | GMP |
| 331 | Sodium citrates | GMP |
| 331(i) | <u>Sodium dihydrogen citrate</u> | GMP |
| 331(iii) | <u>Trisodium citrate</u> | GMP |
| 384 | Isopropyl citrates | 100 mg/kg (Singly Individually or in combination) |
| 472c | Monoglyceride citrate <u>Citric and fatty acid esters of glycerol</u> | |
| 4.5 Antifoaming Agents (oils for deep frying) | | |
| INS No. | Additive | Maximum Use Level |
| 900a | Polydimethylsiloxane | 10 mg/kg |

CODEX STANDARD FOR EDIBLE FATS AND OILS NOT COVERED BY INDIVIDUAL STANDARDS (CODEX STAN 19-1981)

3. FOOD ADDITIVES

3.1 No additives are permitted in virgin or cold pressed oils covered by this Standard.

| 3.2 Colours | | |
|---|---|---|
| No colours are permitted in vegetable oils covered by this Standard. | | |
| The following colours are permitted for the purpose of restoring natural colour lost in processing or for the purpose of standardizing colour, as long as the added colour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value: | | |
| INS No. | Additive | Maximum Use Level |
| 100(i) | Curcumin or Turmeric | 5 mg/kg (calculated as total eureumin) |
| 160a | Beta-carotene | 25 mg/kg |
| 160a(ii) | Carotenes, Vegetable | 25 mg/kg |
| 160a(i) | Beta-carotene (synthetic) | 25 mg/kg (<u>Singly or in combination</u>) |
| 160a(iii) | <u>beta-Carotene (<i>Blakeslea trispora</i>)</u> | |
| 160e | beta-Apo-8'-Carotenal | |
| 160f | Beta-Apo-8'-Carotenoic Acid, methyl or ethyl ester | |
| 160b(i) | <u>Annatto Extracts, bixin-based</u> | <u>10 mg/kg (as bixin)</u> |
| 3.3 Flavours | | |
| Natural flavours and their identical synthetic equivalents and other synthetic flavours, except those which are known to represent a toxic hazard. | | |
| 3.4 Antioxidants | | |
| INS No. | Additive | Maximum Use Level |
| 304 | Ascorbyl Palmitate | 500 mg/kg (Singly Individually or in combination) |
| 305 | Ascorbyl Stearate | |
| 307a | <u>Tocopherol, d-alpha-</u> | <u>300 mg/kg (Singly or in combination)</u> |
| 307b | <u>Tocopherol concentrate, mixed</u> | |
| 307c | <u>Tocopherol, dl-alpha</u> | |
| 306 | Mixed tocopherols concentrate | GMP |

| | | |
|---|------------------------------------|---|
| 307 | Alpha-tocopherol | GMP |
| 308 | Synthetic gamma-tocopherol | GMP |
| 309 | Synthetic delta-tocopherol | GMP |
| 310 | Propyl gallate | 100 mg/kg |
| 319 | Tertiary butyl hydroquinone (TBHQ) | 120 mg/kg |
| 320 | Butylated hydroxyanisole (BHA) | 175 mg/kg |
| 321 | Butylated hydroxytoluene (BHT) | 75 mg/kg |
| Any combination of gallates, BHA, BHT, and/or TBHQ, | | 200 mg/kg but limits above not to be exceeded |
| 389 | Dilauryl thiodipropionate | 200 mg/kg |

3.5 Antioxidant synergist

| INS No. | Additive | Maximum Use Level |
|-----------------|--|---|
| 330 | Citric acid | GMP |
| 331 | Sodium citrates | GMP |
| 331(i) | Sodium dihydrogen citrate | GMP |
| 331(iii) | Trisodium citrate | GMP |
| 384 | Isopropyl citrates | 100 mg/kg (Singly Individually or in combination) |
| 472c | Monoglyceride citrate Citric and fatty acid esters of glycerol | |

3.6 Antifoaming agents (for oils and fats for deep frying)

| INS No. | Additive | Maximum Use Level |
|---------|----------------------|-------------------|
| 900a | Polydimethylsiloxane | 10 mg/kg |

CODEX STANDARD FOR NAMED ANIMAL FATS (CODEX STAN 211-1999)

4. Food Additives

4.1 Colours

The following colours are permitted for the purpose of restoring natural colour lost in processing or for the purpose of standardizing colour, as long as the added colour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value:

| INS No. | Additive | Maximum Use Level |
|------------------|---|--|
| 100(i) | Curcumin or Turmeric | 5 mg/kg (calculated as total curcumin) |
| 160a | Beta-carotene | 25 mg/kg |
| 160a(ii) | Carotenes, Vegetable | 25 mg/kg |
| 160a(i) | Beta-carotene (synthetic) | 25 mg/kg (Singly or in combination) |
| 160a(iii) | beta-Carotene (<i>Blakeslea trispora</i>) | |
| 160e | beta-Apo-8'-Carotenal | |
| 160f | Beta-Apo-8'-Carotenoic Acid, methyl or ethyl ester | |
| 160b(i) | Annatto extracts, bixin-based | 10 mg/kg (as bixin) |

4.2 Antioxidants

| INS No. | Additive | Maximum Use Level |
|---------|--------------------|-------------------|
| 304 | Ascorbyl palmitate | |

| | | |
|--|--|--|
| 305 | Ascorbyl stearate | 500 mg/kg (<u>Singly</u> Individually or in combination) |
| 307a | <u>Tocopherol, d-alpha-</u> | 300 mg/kg (<u>Singly or in combination</u>) |
| 307b | <u>Tocopherol concentrate, mixed</u> | |
| 307c | <u>Tocopherol, dl-alpha</u> | |
| 306 | Mixed tocopherols concentrate | GMP |
| 307 | Alpha tocopherol | GMP |
| 308 | Synthetic gamma-tocopherol | GMP |
| 309 | Synthetic delta tocopherol | GMP |
| 310 | Propyl gallate | 100 mg/kg |
| 319 | Tertiary butyl hydroquinone (TBHQ) | 120 mg/kg |
| 320 | Butylated hydroxyanisole (BHA) | 175 mg/kg |
| 321 | Butylated hydroxytoluene (BHT) | 75 mg/kg |
| Any combination of gallates, BHA, BHT, or TBHQ | | 200 mg/kg but limits above not to be exceeded |
| 4.3 Antioxidant synergist | | |
| INS No. | Additive | Maximum Use Level |
| 330 | Citric acid | GMP |
| 331 | Sodium citrates | GMP |
| 331(i) | <u>Sodium dihydrogen citrate</u> | <u>GMP</u> |
| 331(iii) | <u>Trisodium citrate</u> | <u>GMP</u> |
| 384 | Isopropyl citrates | 100 mg/kg (<u>Singly</u> Individually or in combination) |
| 472c | <u>Monoglyceride citrate</u> <u>Citric and fatty acid esters of glycerol</u> | |

CODEX STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS (CODEX STAN 33-1981)

4. FOOD ADDITIVES

4.1 Virgin olive oils

No additives are permitted in these products.

4.2 Refined olive oil, olive oil, refined olive-pomace oil and olive-pomace oil

The addition of alpha-tocopherols (**d-alpha tocopherol (INS 307a)**; **mixed tocopherol concentrate (INS 307b)**; **dl-alpha-tocopherol (INS 307c)**) to the above products is permitted to restore natural tocopherol lost in the refining process. The concentration of alpha-tocopherol in the final product shall not exceed 200 mg/kg.