

codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD
HEALTH
ORGANIZATION



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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).

TABLE OF CONTENTS

	<u>Paragraphs</u>
OPENING OF THE SESSION.....	1-3
ADOPTION OF THE AGENDA	4-6
MATTERS REFERRED TO THE COMMITTEE BY THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES	7-14
DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: INCLUSION OF RICE BRAN OIL	15-30
CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK	
A) PROPOSED DRAFT CRITERIA TO ASSESS THE ACCEPTABILITY OF SUBSTANCES FOR INCLUSION IN A LIST OF ACCEPTABLE PREVIOUS CARGOES	31-55
B) DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES AT STEP 7 AND PROPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES AT STEP 4	56-75
PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR NAMED VEGETABLE OILS: AMENDMENT TO TOTAL CAROTENOIDS IN UNBLEACHED PALM OIL	76-78
PROPOSED DRAFT AMENDMENTS TO THE STANDARD FOR NAMED VEGETABLE OILS: PALM KERNEL STEARIN AND PALM KERNEL OLEIN	79-85
PROPOSED DRAFT AMENDMENT TO THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS: LINOLENIC ACID LEVEL	86-97
COMPOSITION AND NAMING OF FATTY ACID MODIFIED VEGETABLE OILS	98-105
OTHER BUSINESS, FUTURE WORK AND DATE AND PLACE OF NEXT SESSION.....	106-124

LIST OF APPENDICES

Appendix I	List of Participants	16
Appendix II	Draft Amendment to the Standard for Named Vegetable Oils: Inclusion of Rice Bran Oil	30
Appendix III	Proposed Draft Amendment to the Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk : Proposed Draft Criteria to Assess the Acceptability of Substances for Inclusion in a List of Acceptable Previous Cargoes	33
Appendix IV	Draft Amendment to the Standard for Named Vegetable Oils: Inclusion of Inclusion of Palm Kernel Olein and Palm Kernel Stearin	34
Appendix V	Proposed Draft List of Acceptable Previous Cargoes in the Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk	39
Appendix VI	Proposed Draft Amendment to the Standard for Olive Oils and Olive Pomace Oils: level of linolenic acid	40
Appendix VII	Amendments to the Sections on Food Additives in Standards for Fats and Oils	41

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 Spread 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-stigmastanol 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-stigmastanol 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-stigmastanol 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-stigmastanol 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 31 st CAC	para.30 Appendix II
Proposed Draft Criteria (Code of Practice for the Storage and Transport of Fats and Oils in Bulk)	5	Governments 31 st 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

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**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 $E_{1\%}^{1\text{cm}} = 359$

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.

ALINORM 09/32/17
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]

**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>	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, 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.