codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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ALINORM 01/17

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION
Twenty-fourth Session
Geneva, Switzerland, 2-7 July 2001

REPORT OF THE SEVENTEENTH SESSION OF THE CODEX COMMITTEE ON FATS AND OILS

London, United Kingdom
19 – 23 February 2001

Note: This document incorporates Codex Circular Letter 2001/4-FO

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CX 5/15.2 **CL 2001/4-FO**
March 2001

TO: - Codex Contact Points
- Interested International Organizations

FROM: Secretary, Codex Alimentarius Commission, Joint FAO/WHO Food Standards Programme, FAO, 00100 Rome, Italy

SUBJECT: **Distribution of the Report of the 17th Session of the Codex Committee on Fats and Oils (ALINORM 01/17)**

A. MATTERS FOR ADOPTION BY THE 24th SESSION OF THE CODEX ALIMENTARIUS COMMISSION

Proposed Draft Standards and Code at Step 5/8 of the Procedure

1. Proposed Draft Amendments to the Standard for Named Vegetable Oils (para. 33, Appendix II)

2. Proposed Draft Lists of Acceptable Previous Cargoes and Banned Immediate Previous Cargoes for inclusion in the *Code of Practice for the Storage and Transport of Fats and Oils in Bulk* (paras. 76 and 81, Appendix III)

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, Joint FAO/WHO Food Standards Programme, FAO, via delle Terme di Caracalla, 00100 Rome, Italy **before 15 May 2001.**

Proposed Draft Standard at Step 5 of the Procedure

3. Proposed Draft Standard for Fat Spreads and Blended Spreads (para. 66, Appendix V)

Governments wishing to submit comments on the implications which the Proposed Draft Standard 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, Joint FAO/WHO Food Standards Programme, FAO, via delle Terme di Caracalla, 00100 Rome, Italy **before 15 May 2001**.

B. REQUEST FOR COMMENTS AND INFORMATION

4. Draft Revised Standard for Olive Oils and Olive Pomace Oils (para. 26, Appendix IV)

5. Proposed Draft List of Acceptable Previous Cargoes (para. 77, Appendix VI)

Government and international organizations are invited to provide comments on the substances listed, and proposals for substances to be further added and/or deleted in the Lists of Acceptable Previous Cargoes and Banned Immediate Previous Cargoes, including supporting documentation on the safety assessment of those substances.

Governments and international organizations wishing to submit comments and information on points 4. and 5. should do so in writing to the Secretary, Joint FAO/WHO Food Standards Programme, FAO, via delle Terme di Caracalla, 00100 Rome, Italy, with a copy to Ms. Catriona Stewart, Food Labelling, Standards and Consumer Protection Division – Food Standards Agency PO Box 31037, London SW1P 3WG, UK (Fax: +44 20 7238 5782), E-mail: catriona.stewart@foodstandards.gsi.gov.uk **before 15 December 2001.**

SUMMARY AND CONCLUSIONS

The summary and conclusions of the 17th Session of the Codex Committee on Fats and Oils are as follows:

Matters for consideration by the Commission:

The Committee:

- agreed to advance to Steps 5/8 the Proposed Draft Amendments to the Standard for Named Vegetable Oils (High Oleic Safflower Oil, High Oleic Sunflower Oil, Tables 1-4) (para. 33, Appendix II)

- agreed to advance to Steps 5/8 the Proposed Draft Lists of Acceptable Previous Cargoes and Banned Immediate Previous Cargoes for inclusion in the *Code of Practice for the Storage and Transport of Edible Fats and Oils in Bulk* (paras. 76 and 81, Appendix III)

- agreed to advance to Step 5 the Proposed Draft Standard for Fats Spreads and Blended Spreads (para. 66, Appendix V)

Other Matters of Interest to the Commission

The Committee:

- agreed to return to Step 6 the Draft Standard for Olive Oils and Olive Pomace Oils as no consensus could be reached on the essential composition factors (para. 26, Appendix IV)

- agreed to circulate for comments at Step 3 an additional Proposed Draft List of Acceptable Previous Cargoes (para. 77, Appendix VI)

- proposed to initiate the following new work:

  - Amendment to the Draft Standard for Named Vegetable Oils: Mid-Oleic Acid Sunflower Oil, Palm Superolein, and amendments to Table 3 and 4 (para. 34)

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INTRODUCTION

1) The 17th Session of the Codex Committee on Fats and Oils (CCFO) was held in London from 19-23 February 2001 at the kind invitation of the Government of the United Kingdom. The Session was chaired by Mr G. Meekings, Head of Food Labelling, Standards and Consumer Protection Division of the Food Standards Agency. It was attended by 109 participants from 31 Member countries and 8 international organisations. The List of Participants is attached to this report as Appendix I.

OPENING OF THE SESSION

2) The Session was opened by Mr Meekings who welcomed participants to the 17th Session of the Committee on behalf of the Government of United Kingdom and wished them every success in their deliberations.

ADOPTION OF THE AGENDA (Agenda Item 1)

3) The Committee adopted the Provisional Agenda as proposed in CX/FO 01/1. It agreed to establish two working groups to facilitate discussions on the following items:

- Completion of data on high oleic safflower oil and high oleic sunflower oil for their inclusion in the Codex Standard for Named Vegetable Oils, and
- Additives provisions in the Proposed Draft Standard for Fat Spreads and Blended Spreads.

MATTERS ARISING FROM THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES (Agenda Item 2)[1]

4) The Committee noted the decisions of the 23rd Session of the Codex Alimentarius Commission (CAC) regarding its work as well as general matters of interest arising from the Commission such as the Medium-Term Plan, particularly the finalisation of revision/simplification of Codex commodity standards and the elaboration of specific commodity standards where required; the Criteria for the Establishment of Work Priorities and Subsidiary Bodies of the Commission; and the amendment to the food hygiene provisions to be used throughout commodity standards. The Committee also noted matters of interest arising from the Codex Committee on Food Hygiene (CCFH) and the Codex Committee on Milk and Milk Products (CMMP).

DRAFT REVISED STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS (Agenda Item 3)[2]

5) The Committee recalled that its 15th Session had returned the Draft Standard to Step 6 for redrafting in order to include the amendments introduced in the Olive Oil Standard of the International Olive Oil Council (IOOC). The 16th Session noted that the classification of olive oils was under review in the IOOC and the EC and returned the Draft Standard to Step 6 for redrafting in the light of the changes which might be introduced in the IOOC and EC standards. No further proposal was received and the current text was circulated for comments at Step 6 by CL 2000/32-FO (September 2000).

6) The Delegation of Sweden, speaking on behalf of the Member States of the European Union present at the meeting, informed the Committee that the EC was preparing new proposals for the olive oil sector, including a medium-term amendment to the classification of olive oils. The differences between the current EC rules and the Codex draft standard were likely to cause significant problems, and the EC could not accept provisions that were less stringent than Community rules.

7) The Observer from the IOOC stressed the need to update the standard in view of its importance for international trade and to discuss the standard in detail in order to make further progress.

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1 CX/FO 01/2

2 CL 2000/32-FO, CX/FO 01/3 (comments of Canada, Japan, Poland, Portugal, Spain, IOOC), CX/FO 01/3-Add.1 (comments of Argentina, Morocco), CRD 1 (comments of Arab Republic of Syria, Brazil, European Community), CRD 4 (comments of Malaysia), CRD 5 (ISO Nomenclature)

8) The Committee agreed to proceed with its consideration of the draft standard section by section in order to identify the areas where consensus could be achieved and complete the revision of the text where possible.

Section 1. SCOPE

9) The Committee amended the Scope to make it consistent with the wording used in the Standard for Named Vegetable Oils, as proposed by the Delegation of Canada. Consequential amendments were made to Sections 3.5, 3.6, and 3.7.

Section 2. DESCRIPTION

10) The Committee noted the proposal of the Delegation of Argentina to include an additional category of 'refined olive oil' in the Description. Several delegations noted that this was already included in section 3 which described the specific categories of oils. The Committee had an exchange of views on the opportunity of rearranging the text included in sections 2 and 3, or amending current definitions. However, several delegations pointed out that the present *Description* corresponded to current use and that it would be difficult to reach consensus on significant changes. It was also recalled that the Format of Codex Standards included product definitions in *Section 2. Description* and more specific requirements in *Section 3. Essential Composition and Quality Factors*. The Committee therefore agreed to retain the current section unchanged.

11) In Section 2.1, the Committee agreed that the correct botanical name of the olive tree should read *Olea europea* L., as specified in ISO/DIS 5507:1999 on Nomenclature.

Section 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

12) The Committee agreed to make the necessary corrections to the terminology in the French and Spanish versions of the standard, as pointed out by the Delegation of Tunisia and the Observer from IOOC.

13) The Committee noted that the products described in sections 3.3 Ordinary Virgin Olive Oil, 3.4 Refined Olive Oil and 3.6 Refined Pomace Oil were not allowed for sale in the member countries of the European Union. However, some delegations and the Observer from IOOC indicated that they were used in a number of countries in conformity with national regulations and current practices, whether in bulk, for industrial use or at the retail stage.

14) After a detailed discussion, the Committee agreed to retain sections 3.3, 3.4 and 3.6 with a footnote to the effect that these products "may only be sold direct to the consumer if permitted in the country of retail sale".

Section 3.9 Fatty Acid Composition

15) The Observer from the EC proposed to remove the values between C16:1 and C 18:2 from the Table. However the Committee noted that these values represented an important reference for many countries and they were retained. The Delegation of Argentina, referring to its written comments, proposed amendments to the fatty acid composition for myristic acid (C14:0), heptadecanoic acid (C17:0), linolenic acid (C18:3), arachidic acid (C20:0), based on the composition of olive oils in that country due to varietal characteristics and agro-climatic conditions. The Committee agreed to retain the current values.

16) The Committee had an extensive discussion on the level of linolenic acid (C18:3). The Observer from the EC, supported by some delegations of the EU, expressed the view that the current value of 0.9 % should be retained as a higher value of 1% would allow the adulteration of olive oil, whereas the standard should be as restrictive as possible in order to ensure the quality of the product. The Observer indicated that some exceptions could be granted on a case-by-case basis for specific varieties and/or areas of production but they should not be generalized to an international standard, and the production concerned was limited in quantity.

17) The Delegation of Morocco recalled that certain olive oils from the Mediterranean are characterized by a linolenic acid value generally above 0.9% and that the level of production concerned is considerable in relation to world production. The Delegation recalled that the IOOC had considered the studies carried out in the laboratories of several producing countries on the risk of fraud associated with the level of linolenic acid and concluded that it was not an indicator of authenticity by itself. As other reliable criteria existed for this purpose (sterols, triglycerides, tocopherols), a limit of 1% would not facilitate adulteration of olive oils through mixture with seed oils. The Delegation therefore strongly supported the value of 1%, in conformity with the IOOC decision taken by IOOC at its 79th Session in 1998 (Florence, Italy, Resolution. RES-3/79-IV/98, 25/11/1998).

18) The Observer from the IOOC indicated that the decision to adopt a value to 1% had been taken by consensus in IOOC after extensive studies and detailed discussion. Several delegations supported that value as there was already an international reference in IOOC and recalled that the mandate of the Committee was to harmonize the standard with that of IOOC. It was also noted that the current standard referred to a level of 1.5%. Delegations of member countries of the EU stressed the importance of the current level (0.9%) for enforcement purposes, in order to ensure the quality of olive oils in producing countries, and to prevent unfair trade practices at the international level.

19) The Committee had an extensive exchange of views and considered a range of possible options including the following: retaining 0.9% in the Table with a footnote indicating that 1% could be accepted if permitted in the country of retail sale, or that it might be acceptable for certain varieties subject to additional measures to confirm authenticity. Alternatively, it was proposed to include the value of 1% in the Table with a note allowing individual countries to apply a limit of 0.9% .

20) The Committee could not agree on this point and recognized that it would not be possible to finalize the standard for adoption by the Commission at this stage. Some delegations felt that there was no need to proceed with the revision of the standard as the situation was not likely to evolve before the next session of the Committee and the Commission should be informed accordingly. It was also noted that the review of olive oil classification in progress in the European Community would not be completed before 2003.

21) Some delegations indicated that the methodology was likely to evolve in the near future and that the level of linolenic acid might not be any longer the main parameter used to indicate adulteration, which might solve the current difficulties. Other delegations pointed out that significant progress had been achieved on the revision and that it would be preferable to proceed with this work.

Section 3.10

22) The Committee agreed that the title should refer to Desmethylsterols (Percentage of total sterols) and made some editorial changes for clarification purposes. The Delegation of Malaysia proposed to express desmethylsterols in mg/kg as this would be more accurate. However it did not appear feasible at this stage as this would entail a comprehensive revision of the values, and the Committee agreed to retain the percentage values for the time being.

Section 3.13

23) The title of Section 3.13 was amended to Stigmastadiene (Detection of refined vegetable oils) for clarification purposes

24) The Committee discussed the need to amend this section. Some delegations and the Observer from the EC pointed out that the maximum stigmastadiene content was not relevant for olive oil and olive-pomace oil and that current methodology for the determination of Minimum R1 sterene ratio was not adequate. The Delegation of Tunisia pointed out that there were no other method to establish the presence of desterolized seed oil for control purposes. The Committee agreed to retain the values for stigmastadiene content for virgin olive oils and refined olive oil and deleted the other values in this section.

Section 8. Methods of Analysis and Sampling

25) The Committee agreed with the conclusions of the Working Group on methods of analysis, as presented in CRD 6 and introduced the corresponding changes in the revised text.

Status of the Draft Revised Standard for Olive Oils and Olive Pomace Oils

26) The Committee agreed to return the Draft Standard, as amended at the present session, to Step 6 for further comments and consideration at the next session (see Appendix IV). The Observer from IOOC offered to cooperate with the UK Secretariat to facilitate further revision of the text with a view to finalizing the standard at the next session.

PROPOSED DRAFT AMENDMENTS TO THE STANDARD FOR NAMED VEGETABLE OILS (INCLUDING PROVISIONS FOR HIGH OLEIC ACID SAFFLOWER OIL AND HIGH OLEIC ACID SUNFLOWER OIL) (Agenda Item 4)[3]

27) The 23rd Session of the Codex Alimentarius Commission adopted the above Standard at Step 8 and approved as new work the inclusion of provisions for high oleic acid safflower oil and high oleic acid sunflower oil. At its last session, the Committee agreed that the delegations of Japan and France would prepare the relevant amendments for these oils. On this basis, the United Kingdom Secretariat prepared a Proposed Draft Amendment to the Standard for consideration considered at Step 3 by the 17th Session. The proposed text is attached to CL 2000/25-FO as Annex 2.

28) The Committee agreed to amend Section 2.1 – Product Definition and Section 3.1 – GLC Ranges of Fatty Acid Composition as proposed in Annex 2 of CL 2000/25-FO. It also agreed to amend Tables 1-4 of the Standard based on the recommendations made by the Working Group on Named Vegetable Oils[4] which are contained in CRD 8 (see also para. 3).

29) The Committee noted the request of the United States to amend oleic (C18:0) and linoleic (C18:2) fatty acid ranges for sunflowerseed oil in Table 1 in order to introduce provisions for a 'mid-oleic' sunflower oil. In this regard, the Committee agreed that the existing values for traditional and high oleic acid sunflower oil should be retained and that the proposal of the United States for a possible new category should be discussed at the next session.

30) The Committee recognized that some data were missing for desmethylsterols and tocol for palm olein, palm stearin, rapeseed oil (high erucic acid) and mustard oil. Consequently, it agreed that relevant data should be supplied in support of such proposals as part of the regular updating of the Standard.

31) The Committee also agreed that existing ranges in percentages of total sterols in Table 3 should be retained as this was the conventional analytical approach. However, the Committee considered that the Standard should include provisions for ranges as absolute concentrations (i.e. mg/kg) for tocopherols and tocotrienols since this might be useful nutritional information for the consumers and therefore, data should be collected as soon as possible.

32) In addition, the Delegation of Malaysia proposed the inclusion of 'palm superolein' in the Standard in view of the increasing importance of this oil in world trade and the Committee concurred with this proposal.

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

33) The Committee agreed to forward the Proposed Draft Amendment to the 24th Session of the Commission for adoption at Step 5/8, with the omission of Steps 6 and 7 (see Appendix II).

34) The Committee also agreed to propose as new work the elaboration of provisions for mid-oleic sunflower oil, palm superolein and additional data in the Tables.

PROPOSED DRAFT STANDARD FOR SPREADS AND BLENDED SPREADS (Agenda Item 5)[5]

35) The Committee recalled that the last session had not come to a conclusion on the description and essential composition factors and had not discussed the other sections due to time constraints. The Proposed Draft Standard had therefore been returned to Step 3 for further comments and consideration at the 17th Session. The Committee discussed the text section by section and made the following amendments.

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3 CL 2000/25-FO, CL 2000/25A-FO, CX/FO 0/4 (comments of Canada, Italy, Poland, South Africa, Spain, United Kingdom and the United States), CX/FO 0/4-Add.1 (comments of American Oil Chemists' Society), CRD 1 (comments of Brazil, China, Japan, Italy, Spain, United Kingdom and United States); CRD 4 (comments from Malaysia); CRD 7 (Italy); and CRD 8 (Report of the *Ad Hoc* Working Group on Named Vegetable Oils).

4 Germany, Canada, France, Hungary, Italy, Japan, Malaysia, Philippines, United Kingdom, United States and AOCS.

5 ALINORM 99/17, Appendix VI, CL 2000/24-FO, CX/FO 01/5 (comments of Brazil, Poland, IFMA), CX/FO 01/5-Add.1 (comments of Canada, Japan, Thailand)), CRD 2 (comments of European Community), CRD 4 (comments of Malaysia), CRD 6 (Revision of the methods of analysis in standards for fats and oils), CRD 9 (Report of the Ad hoc Working Group on additives)

Section 1. SCOPE

36) The Delegation of the United States, supported by Japan, proposed to delete the upper limit of 90%. The Observer from the EC supported the limit of 90% as it allowed to establish a distinction with liquid products. Some delegations pointed out that a fat content above 90% could be found in solid fat spreads, and questioned the exclusion of liquid products from the standard. The Committee agreed to retain the current text of the Scope, until a final decision was made on the products covered by the standard in the following sections.

Section 2. DESCRIPTION

37) The Delegation of the United States, supported by several delegations, proposed to delete the reference to "firm and spreadable at 20°C". The Observer from the EC, supported by other delegations, indicated that "spreadable" was the essential characteristic of fat spreads and that it could not accept its deletion, as it would completely change the nature of the products covered by the standard.

38) The Committee had an exchange of views on the interpretation of the term "spreadable", and in particular whether this was restricted to semi-solid fats or could apply to liquid products. The Delegation of Spain expressed the view that if the nature of the products was changed, the title of the standard should be amended accordingly. The Delegation of Japan proposed to amend the title to "margarine and blended margarine". The Committee decided to discuss further the description and to decide later if this entailed any amendment of the title. The current title of the standard was eventually retained.

39) As a compromise, the Committee agreed to describe fat spread as "plastic or fluid emulsions" and to delete the reference to "firm and spreadable at 20°C". The Observer from the EC indicated that it did not agree with this amendment.

Section 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

Section 3.1.1. Fat Spreads

40) The Delegation of Japan proposed to simplify the classification of spreads and to include only two classes of products: margarines with a fat content above 80% and fat spreads with a fat content below 80%.

41) Some delegations and the Observer form the EC stressed the need to retain the reference to "three quarter margarine" and "half fat margarine" as it was commonly used in their countries. Other delegations pointed out that these names were not in use in their countries; if the specifications for these categories were generally applied at the international level, this would create barriers to trade and prevent marketing of other types of fat spreads. The Delegation of the Netherlands pointed out that the inclusion of only two classes of fat spreads entailed the disappearance of the present Codex Standard for Minarine and the internationally known name "minarine" for products with a fat content of 39 to 41%.

42) The Delegation of Brazil, referring to its written comments, indicated that in Brazil the term margarine was used with the percentage of fat to describe the product as this was a clear information for the consumer, and that this possibility should not be excluded in the standard.

43) The Committee considered this question in detail and agreed that two categories should be retained: margarine (fat content greater than or equal to 80%) and fat spreads (fat content below 80%). The conditions for use of the term 'margarine' with a lower fat content were specified in the labelling section (see also section 7.1.1), in order to take into account current practices at the national level.

Section 3.1.2 Blended Spreads

44) The Observer from the EC proposed to amend the minimum level of milk fat from 3% to 10% as this was necessary to establish a clear distinction between blended spreads, which contained milk fat, and fat spreads. The Delegation of Japan, supported by other delegations and the Observer from IFMA, pointed out that products with a milk fat content between 3 and 10% would not be covered by the standard although they were currently marketed in Japan and other countries.

45) After a detailed discussion, the Committee agreed to retain the reference to 3% and to specify that "a higher minimum percentage may be specified in accordance with the requirements of the country of retain sale" as this left the possibility for member countries to apply a higher level. The Delegation of Japan proposed to redraft the section in order to improve consistency with section 3.1.1 Fat Spreads; however this was not possible at the current session due to time constraints and the Committee noted that this might be addressed at the next session.

3.2 Permitted Ingredients

46) The Committee noted some proposals to include additional substances in the list of permitted ingredients. However it was recognized that the list of additional ingredients was not really necessary and the Committee agreed to delete this section.

Section 4. FOOD ADDITIVES

47) The Delegation of the United States, as Chair of the Working Group on Food Additives[6], presented the proposals included in CRD 9 to revise the additives section. The Committee expressed its appreciation to the WG for its comprehensive work in the review of additives provisions, in order to consider technological justification and ensure consistency with the General Standard for Food Additives. The Committee agreed to introduce the following amendments to the current section.

4.1 Colours

100 (i) Turmeric was deleted as there was no ADI allocated by JECFA, and 100 (ii) Curcumin was retained.

160a (ii) Natural carotenes were added with a GMP level

4.3 Emulsifiers

48) It was specified that the use of several emulsifiers was limited to 'baking purposes only'. The maximum level for Thermally oxidised soyabean oil interacted with mono and diglycerides of fatty acids (479b) was amended to 5g/kg.

4.5 Thickening and stabilizing agents

49) 460(i) Microcrystalline cellulose and 460 (ii) Cellulose were added to the list and Pregelatinized starches were deleted as they were considered as a food ingredient rather than an additive.

4.7 Antioxidants

308 Synthetic gamma tocopherols and 309 Synthetic delta tocopherols were deleted as there was no ADI established by JECFA. The following maximum levels were amended:

304 Ascorbyl palmitate and 305 Ascorbyl stearate: 500 mg/kg

310 Propyl gallate: 100 mg/kg

389 Dilauryl thiopropionate: 200 mg/kg

4.8 Antioxidant synergists

50) Monoglyceride citrate was deleted as there was no ADI established by JECFA.

4.10 Flavour enhancers

51) 959 Neohesperidine dihydrochalcone was deleted as there was no ADI established by JECFA.

4.11 Miscellaneous

52) As several sweeteners were included in this section, the Committee agreed to establish a separate section for Sweeteners and retained the current GMP levels.

53) The Delegation of Spain pointed out that for a number of additives a GMP level was included although they had a numerical ADI and proposed to put them in square brackets in the list. The Committee agreed that further consideration should be given to those additives and invited member countries to make proposals for numerical levels if required.

54) The Delegation of the Philippines proposed to include 384 Stearyl Citrate and 407a Processed Euchema Seaweed in the Additives Section. As this proposal was made after the Committee had concluded its consideration of the standard it was not discussed. The Committee noted that Stearyl Citrate was already allowed in the GSFA and that it was possible for governments to make additional proposals either at the endorsement stage in the Committee on Food Additives and Contaminants or at the next session of the CCFO.

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6 United States (Chair), Germany, Hungary, Malaysia, Philippines, Switzerland, United Kingdom.

Section 6. HYGIENE

55) The Committee agreed to insert the revised standard text for food hygiene provisions adopted by the last session of the Commission and included in the Procedural Manual.

Section 7. LABELLING

56) In Section 7.1 The Delegation of Malaysia proposed to include a reference to the Guidelines on Use of Nutrition Claims (GL 23-1997) and other relevant Codex Guidelines, in addition to the current reference to the General Standard for the Labelling of Prepackaged Foods.

57) The Observer from IFMA, referring to its written comments, expressed the view that the classification of fat spreads should include specific nutrition claims for 'low fat' which could deviate from the Guidelines, since deviations from general requirements were allowed providing they were endorsed by the relevant Committees, and commodity committees could also propose labelling and nutrition provisions.

58) The Secretariat recalled that the Committee on Food Labelling and the Committee on Nutrition and Foods for Special Dietary Uses, while discussing the Guidelines and endorsing labelling provisions, had specified that the Guidelines were applicable to all foods and that there should be no exception. This applied especially to the claim for "low fat" since this question had been raised in the Committees. The definition of the absolute claims 'low fat' and 'cholesterol free' had been established in the CCNFSDU and reflected international consensus among nutritionists in this area. However, the comparative claims for 'reduced fat' or 'light' were allowed by the Guidelines under certain conditions, and could be used for fat spreads as well as for other foods.

59) The Committee noted that this question had been addressed at the level of the horizontal Committees and agreed to include the reference to the Guidelines for Use of Nutrition Claims in section 7. The reference to Codex guidelines was therefore deleted in the following paragraph (section 7.1). The Observer from the EC indicated that due to the importance of trade in products with a lower fat content, the question of claims should be considered in detail.

60) The Delegation of Spain proposed to allow a reference to the seed oil composition of the margarine in conjunction with the name of the food (such as 'sunflower margarine'). The Committee noted that there was nothing to prevent such a description under the General Standard for the Labelling of Prepackaged Foods and it was not necessary to specify it in the current standard.

61) Following earlier discussion of the Description, the Committee included a new section 7.1.1 (see para. 44) indicating that products with a fat content below 80% could be labelled "margarine" with a qualification reflecting the lower fat content, in accordance with the requirements of the country of retail sale. The Delegation of Spain and the Observer from the EC expressed the view that this paragraph should be amended to make it clear that products with names which differed from the names allowed in the countries of retail sale could not be marketed in those countries.

62) The Delegation of the Netherlands, supported by the Observer from the EC, proposed to include a specific reference to the products corresponding to the current standard for minarine as they were significantly traded and familiar to consumers in several countries. Some delegations expressed the view that the standard did not prevent such a description but did not need include specific names used in one country or region in particular. After a short discussion, the Committee agreed to add a new sentence in section 7.11 allowing the use of 'minarine' or 'halvarine' for products with a fat content of 39-41%.

63) In section 7.3 the Committee had an exchange of views on the need to replace 'typical content' with 'average content'. Some delegation proposed to refer to 'fat content' without other qualification, while other delegations indicated that it might cause problems for the industry to comply with a strict requirement. The Committee agreed to refer to 'average content'.

64) The Delegation of Spain, supported by the Observer from the EC, proposed to include a reference to a percentage of salt content as in the standard for butter, since this was an important information for the consumer. The Committee agreed that this question could not be addressed at this stage and would require further consideration at the next session. The corresponding method of analysis was retained in square brackets.

Section 8. Methods of Analysis and Sampling

65) The Committee agreed with the conclusions of the Working Group on methods of analysis, as presented in CRD 6 and introduced the corresponding changes in the revised text.

Status of the Proposed Draft Standard for Fat Spreads and Blended Fat Spreads

66) The Committee agreed to forward the Proposed Draft Standard, as amended at the present session, to Step 5 for adoption by the 24th Session of the Commission (see Appendix V).

PROPOSED DRAFT AMENDMENT TO THE CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK: LISTS OF ACCEPTABLE PREVIOUS CARGOES AND LISTS OF BANNED IMMEDIATE PREVIOUS CARGOES (Agenda Item 6)[7]

67) The 23rd Session of the Codex Alimentarius Commission adopted the above Code at Step 8 with the understanding that Appendices 2 and 3 of the List of Acceptable Previous Cargoes and the List of Banned Immediate Previous Cargoes had still to be developed.[8] As a result, information and proposals on the substances to be included in the lists were requested under CL 1999/3-FO. On the basis of the comments received, the UK Secretariat prepared tables detailing substances proposed for inclusion either in the List of Acceptable Previous Cargoes or in the List of Banned Immediate Previous Cargoes. The lists were attached to CL 2000/44-FO as Appendices 2 and 3 respectively and circulated for comments at Step 3.

Appendix 2 – Proposed Draft List of Acceptable Previous Cargoes[9]

68) The Committee noted that the Proposed Draft List comprised those substances, which had been approved as previous cargoes by the European Commission's Scientific Committee for Food (SCF); the International Federation of Oil, Seeds and Fats Association (FOSFA); and the National Institute of Oilseed Products (NIOP).

69) The Committee had an extensive discussion on the need to incorporate those substances that were not included in the Proposed Draft List but were listed on the Joint FOSFA/NIOP International List of Acceptable Previous Cargoes.

70) The Observer of FOSFA stated that the harmonised FOSFA/NIOP Acceptable List truly reflected the international trade and was used as a basis for contracts. Additionally, differences between the Proposed Draft List and the FOSFA/NIOP Lists might cause significant problems to the trade. He called for the Committee to harmonise both lists in order to avoid potential errors and trade disputes. In addition, he pointed out that some compounds common to both the FOSFA and the NIOP Lists had been already allowed in the EC legislation although they had not yet been included in the SCF's List.

71) The Delegation of Sweden, speaking on behalf of the Member states of the European Union present at the session, supported the principle of a positive list based on substances present on all three lists (FOSFA/NIOP/SCF), and stated that further amendments could be made at a later stage in light of new scientific data. This view was shared by a number of delegations. In this regard, the Committee recalled its earlier decision to refer to both lists: a list of acceptable previous cargoes and a list of banned previous cargoes, which had been approved by the Commission as new work.[10]

72) Several delegations were in favour of expanding the Proposed Draft List to cover those compounds included in the FOSFA International List but not covered by the SCF's List. A number of delegations expressed their concern with the addition of such substances in the cargo lists as this could not only affect the quality of the product but could also pose a risk to consumers health. The safety of these substances should therefore be assessed before including them in the list. In this regard, the Committee noted that the substances which were not yet included in the Proposed Draft List could still be acceptable subject to bilateral agreements, as specified in the Code.

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7 CL 2000/26-FO (Annex 1 – comments from Cuba, Malaysia, Mexico, Philippines, the United Kingdom, Asian Vegetable Oils Club, FOSFA International and NIOP); 2000/44-FO (Annex 1 – comments from Brazil, Canada, South Africa and FOSFA International), CX/FO 01/6 (comments from Brazil, Thailand, the Netherlands and the United States of America), CRD 3 (comments from the European Community), and CRD 4 (comments from Malaysia)

8 ALINORM 99/37, para. 165 and App. VII

9 CL 2000/44-FO Appendix 2.

10 ALINORM 99/17 para. 105

73) The Delegation of Canada, while supporting the development of a list based on those substances which were common to the FOSFA/NIOP/SCF List, stressed the need to establish a process for amending the appendices as well as criteria for evaluating substances before considering any proposal for amendments. This view was shared by the Delegation of the United States which emphasised that the development of these criteria should rest with the Committee that had the necessary expertise and should not be brought to the attention of any other Codex committees as this could delay the adoption of the Appendices.

74) In this respect, the Committee was informed that the list of substances included in both Appendices did not need to be endorsed by the Codex Committee on Food Additives and Contaminants since that Committee dealt with food additives and contaminants present in the product due to technological process but not arising from potential contamination of fats and oils shipped in tanks or in the transport vessels. The Committee noted that the CCFAC had already decided that it was not its responsibility to endorse such lists in reply to a request from CCFO.[11] Therefore, the Committee agreed to delete the sentence referring to the endorsement of the substances contained in the lists by the CCFAC.

75) The Committee discussed how to clearly reflect the non-exhaustive character of the Proposed Draft List to take into account the concern of a number of delegations. In view of this, the Committee agreed to insert a footnote at the end of the first sentence of Note (1) to indicate that the list was currently under development. In addition, following the proposal of the Delegation of Indonesia, the Committee modified Note (3) to make it clear that the list was not necessarily a final list. The Committee also agreed to include 'reactivity with fats/oils of contaminating residues' as an additional criterion to be considered when carrying out risk assessment for the inclusion of substances in the cargo list. The Delegation of Japan expressed the view that both additions to and deletions from the list should be based on scientific grounds.

Status of the Proposed Draft List of Acceptable Previous Cargoes

76) The Committee agreed to forward the Proposed Draft List as contained in Appendix 2 of CL 2000/44-FO including the Notes with the corresponding amendments to the 24th Session of the Codex Alimentarius Commission for adoption at Step 5/8, with the omission of Steps 6 and 7 (see Appendix III). This decision was taken with the understanding that the list would be kept under review to allow further revision for the inclusion of other compounds listed in the FOSFA/NIOP List. The Delegation of Malaysia, supported by the delegations of Indonesia, the Philippines and the United States, expressed its disagreement with the decision to postpone the inclusion of these substances in the Proposed Draft List.

77) Following this decision, the Committee agreed on a list of substances to be circulated for comments and consideration at Step 3 by the next session of the Committee. The Circular Letter would request supporting documentation on the safety assessment of these substances as well as proposals for new additions and/or deletions. In making this decision, the Committee encouraged member countries and international organisations to submit their comments in a timely manner in order to facilitate discussion at the next CCFO. The Committee adopted this as its procedure to introduce amendments to the lists. The Committee agreed on a number of compounds to be included in the Proposed Draft List at Step 3 at the request of Malaysia, the United States and FOSFA International (see Appendix VI).

Appendix 3 – Proposed Draft List of Banned Immediate Cargoes[12]

78) The Committee agreed to delete the sentence into square brackets for consistency with its previous decision (see also para. 73). It decided to remove the Notes with the exception of Point (2) since the Committee felt no need to have them for banned cargoes. Some delegations pointed out that traceability was an important aspect to take into account in order to ensure consumer protection.

79) Since the Committee had already decided to work on two lists, it was considered that, in order to avoid any possibility of inclusion of hazardous compounds in the positive list, the list of banned cargoes should widely cover those compounds that might present health risks. The Committee agreed to enlarge the Proposed Draft List of Banned Immediate Cargoes to include all those substances listed in both the FOSFA International List of Banned Immediate Previous Cargoes and the NIOP Unacceptable Prior Cargo list. In this regard, the Delegation of Malaysia expressed its reservation on the decision to include substances that were not common to both FOSFA and NIOP lists.

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11 ALINORM 95/12, paras. 16-19

12 CL 2000/44-FO Appendix 3.

80) The Observer of FOSFA expressed concern regarding substances which were banned as second or third previous cargoes as these were not considered in the present Proposed Draft List. The Committee noted that the same procedure followed for the inclusion of compounds in the positive list would be applied for the banned list as described in paragraph 78 above and therefore, the Circular Letter would solicit comments on both lists.

Status of the Proposed Draft List of Banned Previous Cargoes

81) The Committee agreed to advance the Proposed Draft List as contained in Appendix 3 of CL 2000/44-FO including Point (2) of the Notes to the 24th Session of the Codex Alimentarius Commission for adoption at Step 5/8, with the omission of Steps 6 and 7 (see Appendix III).

OTHER BUSINESS, FUTURE WORK AND DATE AND PLACE OF NEXT SESSION (Agenda Item 7)

Future Work

82) The Delegation of Indonesia proposed to consider amendments to the temperatures during storage, transport, loading and discharge of fats and oils in Table 1 of the Code of Practice. The Committee agreed that the Delegation should present a short paper indicating the justification for the changes proposed at the next session, in order to decide whether new work was required on an amendment to the Code in this respect.

83) The Committee agreed that its future work would include the following items, as a result of the discussions held during the session :

- Draft Standard for Olive Oils and Olive Pomace Oils
- Proposed Draft Amendments to the Standard for Named Vegetable Oils
    - Super palm olein (prepared by Malaysia)
    - Mid-oleic sunflower oil (prepared by the United States)
    - Inclusion of new desmethylsterol data and tocopherol and tocotrienol data for palm olein, palm stearin, rapeseed oil (high erucic acid) and mustard oil
    - Inclusion of new data on oils expressed in mg/kg in Table 3
- Draft Standard for Fat Spreads
- Proposed Draft Amendments to the List of Acceptable Previous Cargoes and the List of Banned Previous Cargoes

Date and Place of Next Session

84) The Committee was informed that the next session was tentatively scheduled to be held in London, United Kingdom, in early 2003, the final arrangements to be determined in consultation between the host country and Codex Secretariats, subject to the approval of the Commission.

SUMMARY STATUS OF WORK

Subject Matter	**Step**	**Action by**	**Document Reference in ALINORM 01/17**
Proposed Draft Amendments to the Standard for Named Vegetable Oils	5/8	Governments 24th CAC	para. 33 Appendix II
Proposed Draft Lists of Acceptable Previous Cargoes and Banned Immediate Previous Cargoes for inclusion in the *Code of Practice*	5/8	Governments 24th CAC	paras. 76 and 81 Appendix III
Draft Standard for Olive Oils and Olive Pomace Oils	6	Governments 18th CCFO	para. 26 Appendix IV
Proposed Draft Standard for Fat Spreads and Blended Spreads	5	Governments 24th CAC	para. 66 Appendix V
Proposed Draft List of Acceptable Previous Cargoes	3	Governments 18th CCFO	para. 77 Appendix VI
Proposed Draft Amendments to the Standard for Named Vegetable Oils: - mid-oleic sunflower oil - super palm olein - amendments to the Tables	1/2/3	24th CAC Governments 18th CCFO	para. 34

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PROPOSED DRAFT AMENDMENT TO THE CODEX STANDARD FOR NAMED VEGETABLE OILS (At steps 5/8 of the Procedure)

The Appendix to this Standard is intended for voluntary application by commercial partners and not for application by governments.

1. SCOPE

This Standard applies to the vegetable oils described in Section 2.1 presented in a state for human consumption.

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 oil** is derived from the fleshy mesocarp of the fruit of the oil palm (*Elaeis guineensis*).

2.1.10 **Palm olein** is the liquid fraction derived from the fractionation of palm oil (described above).

2.1.11 **Palm stearin** is the high-melting fraction derived from the fractionation of palm oil (described above).

2.1.12 **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.

2.1.13 **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.

2.1.14 **Safflowerseed oil** (safflower oil; carthamus oil; kurdee oil) is derived from safflower seeds (seeds of *Carthamus tinctorious* L.).

2.1.15 **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.

2.1.16 **Sesameseed oil** (sesame oil; gingelly oil; benne oil; ben oil; till oil; tillie oil) is derived from sesame seeds (seeds of *Sesamum indicum* L.).

2.1.17 **Soya bean oil** (soybean oil) is derived from soya beans (seeds of *Glycine max* (L.) Merr.).

2.1.18 **Sunflowerseed oil** (sunflower oil) is derived from sunflower seeds (seeds of *Helianthus annuus* L.).

2.1.19 **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.).

2.2 Other definitions

2.2.1 ***Edible vegetable oils*** are foodstuffs which are composed primarily of glycerides of fatty acids being obtained only from vegetable sources. They may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in the fat or oil.

2.2.2 ***Virgin oils*** are obtained, without altering the nature of the oil, by mechanical procedures, e.g. expelling or pressing, and the application of heat only. They may have been purified by washing with water, settling, filtering and centrifuging only.

2.2.3 ***Cold pressed oils*** are obtained, without altering the oil, by mechanical procedures only, e.g. expelling or pressing, without the application of heat. They may have been purified by washing with water, settling, filtering and centrifuging only.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 GLC ranges of fatty acid composition (expressed as percentages)

Samples falling within the appropriate ranges specified in Table 1 are in compliance with this Standard. Supplementary criteria, for example national geographical and/or climatic variations, may be considered, as necessary, to confirm that a sample is in compliance with the Standard.

3.1.1 Low-erucic acid rapeseed oil must not contain more than 2% erucic acid (as % of total fatty acids).

3.1.2 High oleic acid safflower oil must contain not less than 70% oleic acid (as a % of total fatty acids).

3.1.3 High oleic acid sunflower oil must contain not less than 75% oleic acid (as % of total fatty acids).

3.3 Slip point

Palm olein	not more than 24°C
Palm stearin	not less than 44°C

4. FOOD ADDITIVES

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

4.2 Flavours

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

4.3 Antioxidants

			Maximum Level
304	Ascorbyl palmitate	)	500 mg/kg
305	Ascorbyl stearate	)	individually or in combination
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 and BHT and/or TBHQ		200 mg/kg but limits above not to be exceeded
389	Dilauryl thiodipropionate		200 mg/kg

4.4 Antioxidant synergists

330	Citric acid		GMP
331	Sodium citrates		GMP
384	Isopropyl citrates	)	100 mg/kg individually or in combination
	Monoglyceride citrate	)	

4.5 Anti-foaming agents (oils for deepfrying)

900a	Polydimethylsiloxane	10 mg/kg

5. CONTAMINANTS

5.1 Heavy metals

The products covered by the provisions of this Standard shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

	Maximum permissible concentration
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

5.2 Pesticide residues

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. LABELLING

7.1 Name of the food

The product shall be labelled in accordance with the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Rev. 1-1991; Codex Alimentarius, Volume 1A). The name of the oil shall conform to the descriptions given in Section 2 of this Standard.

Where more than one name is given for a product in Section 2.1, the labelling of that product must include one of those names acceptable in the country of use.

7.2 Labelling of non-retail containers

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

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

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Determination of GLC ranges of fatty acid composition

According to IUPAC 2.301, 2.302 and 2.304 or ISO 5508: 1990 and 5509: 2000 or AOCS Ce 2-66, Ce 1e-91 or Ce 1f-96.

8.2 Determination of slip point

According to ISO 6321: 1991 and Amendment 1: 1998 for all oils, or AOCS Cc 3b-92 or Ce 3-25 (97) for palm oils only.

8.3 Determination of arsenic

According to AOAC 952.13, IUPAC 3.136, AOAC 942.17, or AOAC 985.16.

8.4 Determination of lead

According to IUPAC 2.632, AOAC 994.02 or ISO 12193: 1994 or AOCS Ca 18c-91.

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

Fatty acid	Arachis oil	Babassu oil	Coconut oil	Cottonseed oil	Grapeseed oil	Maize oil	Mustardseed oil	Palm oil	Palm kernel oil	Palm olein
C6:0	ND	ND	ND-0.7	ND	ND	ND	ND	ND	ND-0.8	ND
C8:0	ND	2.6-7.3	4.6-10.0	ND	ND	ND	ND	ND	2.4-6.2	ND
C10:0	ND	1.2-7.6	5.0-8.0	ND	ND	ND	ND	ND	2.6-5.0	ND
C12:0	ND-0.1	40.0-55.0	45.1 53.2	ND-0.2	ND	ND-0.3	ND	ND-0.5	45.0-55.0	0.1-0.5
C14:0	ND-0.1	11.0-27.0	16.8-21.0	0.6-1.0	ND-0.3	ND-0.3	ND-1.0	0.5-2.0	14.0-18.0	0.5-1.5
C16:0	8.0-14.0	5.2-11.0	7.5-10.2	21.4-26.4	5.5-11.0	8.6-16.5	0.5-4.5	39.3-47.5	6.5-10.0	38.0-43.5
C16:1	ND-0.2	ND	ND	ND-1.2	ND-1.2	ND-0.5	ND-0.5	ND-0.6	ND-0.2	ND-0.6
C17:0	ND-0.1	ND	ND	ND-0.1	ND-0.2	ND-0.1	ND	ND-0.2	ND	ND-0.2
C17:1	ND-0.1	ND	ND	ND-0.1	ND-0.1	ND-0.1	ND	ND	ND	ND-0.1
C18:0	1.0-4.5	1.8-7.4	2.0-4.0	2.1-3.3	3.0-6.5	ND-3.3	0.5-2.0	3.5- 6.0	1.0-3.0	3.5-.5.0
C18:1	35.0-69	9.0-20.0	5.0-10.0	14.7-21.7	12.0-28.0	20.0-42.2	8.0-23.0	36.0-44.0	12.0-19.0	39.8-46.0
C18:2	12.0-43.0	1.4-6.6	1.0-2.5	46.7-58.2	58.0-78.0	34.0-65.6	10.0-24.0	9.0-12.0	1.0-3.5	10.0-13.5
C18:3	ND-0.3	ND	ND-0.2	ND-0.4	ND-1.0	ND-2.0	6.0-18.0	ND-0.5	ND-0.2	ND-0.6
C20:0	1.0-2.0	ND	ND-0.2	0.2-0.5	ND-1.0	0.3-1.0	ND-1.5	ND-1.0	ND-0.2	ND-0.6
C20:1	0.7-1.7	ND	ND-0.2	ND-0.1	ND-0.3	0.2-0.6	5.0-13.0	ND-0.4	ND-0.2	ND-0.4
C20:2	ND	ND	ND	ND-0.1	ND	ND-0.1	ND-1.0	ND	ND	ND
C22:0	1.5-4.5	ND	ND	ND-0.6	ND-0.5	ND-0.5	0.2-2.5	ND-0.2	ND-0.2	ND-0.2
C22:1	ND-0.3	ND	ND	ND-0.3	ND-0.3	ND-0.3	22.0-50.0	ND	ND	ND
C22:2	ND	ND	ND	ND-0.1	ND	ND	ND-1.0	ND	ND	ND
C24:0	0.5-2.5	ND	ND	ND-0.1	ND-0.4	ND-0.5	ND-0.5	ND	ND	ND
C24:1	ND-0.3	ND	ND	ND	ND	ND	0.5-2.5	ND	ND	ND

ND - non detectable, defined as 0.05%

[1] Data taken from species as listed in Section 2.

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

Fatty acid	Palm stearin	Rapeseed oil	Rapeseed oil (low erucic acid)	Safflowerseed oil	Safflowerseed oil (high oleic acid)	Sesameseed oil	Soyabean oil	Sunflowerseed oil	Sunflowerseed oil (high oleic acid)
C6:0	ND	ND	ND	ND	ND	ND	ND	ND	ND
C8:0	ND	ND	ND	ND	ND	ND	ND	ND	ND
C10:0	ND	ND	ND	ND	ND	ND	ND	ND	ND
C12:0	0.1-0.5	ND	ND	ND	ND-0.2	ND	ND-0.1	ND-0.1	ND
C14:0	1.0-2.0	ND-0.2	ND-0.2	ND-0.2	ND-0.2	ND-0.1	ND-0.2	ND-0.2	ND-0.1
C16:0	48.0-74.0	1.5-6.0	2.5-7.0	5.3-8.0	3.6-6.0	7.9-12.0	8.0-13.5	5.0-7.6	2.6-5.0
C16:1	ND-0.2	ND-3.0	ND-0.6	ND-0.2	ND-0.2	0.1- 0.2	ND-0.2	ND-0.3	ND-0.1
C17:0	ND-0.2	ND-0.1	ND-0.3	ND-0.1	ND-0.1	ND-0.2	ND-0.1	ND-0.2	ND-0.1
C17:1	ND-0.1	ND-0.1	ND-0.3	ND-0.1	ND-0.1	ND-0.1	ND-0.1	ND-0.1	ND-0.1
C18:0	3.9-6.0	0.5-3.1	0.8-3.0	1.9-2.9	1.5-2.4	4.8-6.1	2.0-5.4	2.7-6.5	2.9-6.2

[1] Data taken from species as listed in Section 2.

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

Fatty acid	Palm stearin	Rapeseed oil	Rapeseed oil (low erucic acid)	Safflowerseed oil	Safflowerseed oil (high oleic acid)	Sesameseed oil	Soyabean oil	Sunflowerseed oil	Sunflowerseed oil (high oleic acid)
C18:1	15.5-36.0	8.0-60.0	51.0-70.0	8.4-21.3	70.0-83.7	35.9-42.3	17-30	14.0-39.4	75-90.7
C18:2	3.0-10.0	11.0-23.0	15.0-30.0	67.8-83.2	9.0-19.9	41.5-47.9	48.0 -59.0	48.3-74.0	2.1-17
C18:3	ND-0.5	5.0-13.0	5.0-14.0	ND-0.1	ND-1.2	0.3-0.4	4.5-11.0	ND-0.3	ND-0.3
C20:0	ND-1.0	ND-3.0	0.2-1.2	0.2- 0.4	0.3-0.6	0.3-0.6	0.1-0.6	0.1-0.5	0.2-0.5
C20:1	ND-0.4	3.0-15.0	0.1-4.3	0.1- 0.3	0.1-0.5	ND-0.3	ND-0.5	ND-0.3	0.1-0.5
C20:2	ND	ND-1.0	ND-0.1	ND	ND	ND	ND-0.1	ND	ND
C22:0	ND-0.2	ND-2.0	ND-0.6	ND-1.0	ND-0.4	ND-0.3	ND-0.7	0.3-1.5	0.5-1.6
C22:1	ND	> 2.0-60.0	ND-2.0	ND-1.8	ND-0.3	ND	ND-0.3	ND-0.3	ND-0.3
C22:2	ND	ND-2.0	ND-0.1	ND	ND	ND	ND	ND-0.3	ND
C24: 0	ND	ND-2.0	ND-0.3	ND-0.2	ND-0.3	ND-0.3	ND-0.5	ND-0.5	ND-0.5
C24:1	ND	ND-3.0	ND-0.4	ND-0.2	ND-0.3	ND	ND	ND	ND

ND - non detectable, defined as ≤ 0.05%

[1] Data taken from species as listed in Section 2.

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

This text is intended for voluntary application by commercial partners and not for application by governments.

1. QUALITY CHARACTERISTICS

1.1 The **colour, odour and taste** of each product shall be characteristic of the designated product. It shall be free from foreign and rancid odour and taste.

		Maximum level
1.2	**Matter volatile at 105°C**	0.2 % m/m
1.3	**Insoluble impurities**	0.05 % m/m
1.4	**Soap content**	0.005 % m/m
1.5	**Iron (Fe):**	
	Refined oils	1.5 mg/kg
	Virgin oils	5.0 mg/kg
1.6	**Copper (Cu)**	
	Refined oils	0.1 mg/kg
	Virgin oils	0.4 mg/kg
1.7	**Acid value**	
	Refined oils	0.6 mg KOH/g Oil
	Cold pressed and virgin oils	4.0 mg KOH/g Oil
	Virgin palm oils	10.0 mg KOH/g Oil
1.8	**Peroxide value:**	
	Refined oils	up to 10 milliequivalents of active oxygen/kg oil
	Cold pressed and virgin oils	up to 15 milliequivalents of active oxygen/kg oil

2. COMPOSITION CHARACTERISTICS

2.1 The **arachidic and higher fatty acid content** of arachis oil should not exceed 48g/kg.

2.2 The **Reichert values** for coconut, palm kernel and babassu oils should be in the ranges 6-8.5, 4-7 and 4.5-6.5, respectively.

2.3 The **Polenske values** for coconut, palm kernel and babassu oils should be in the ranges 13-18, 8-12 and 8-10, respectively.

2.4 The **Halphen test** for cottonseed oil should be positive.

2.5 The **erythrodiol content** of grapeseed oil should be more than 2% of the total sterols.

2.6 The **total carotenoids** (as beta-carotene) for unbleached palm oil, unbleached palm olein and unbleached palm stearin should be in the range 500-2000, 550-2500 and 300-1500 mg/kg, respectively.

2.7 The **Crismer value** for low erucic acid rapeseed oil should be in the range 67-70.

2.8 The **concentration of brassicasterol** in low erucic acid rapeseed oil should be greater than 5% of total sterols.

2.9 The **Baudouin test** should be positive for sesameseed oil.

3. CHEMICAL AND PHYSICAL CHARACTERISTICS

Chemical and Physical Characteristics are given in Table 2.

4. IDENTITY CHARACTERISTICS

4.1 **Levels of desmethylsterols** in vegetable oils as a percentage of total sterols are given in Table 3.

4.2 **Levels of tocopherols and tocotrienols** in vegetable oils are given in Table 4.

5. METHODS OF ANALYSIS AND SAMPLING

5.1 Determination of matter volatile at 105°C

According to IUPAC 2.601 or ISO 662: 1998.

5.2 Determination of insoluble impurities

According to IUPAC 2.604 or ISO 663: 2000.

5.3 Determination of soap content

According to BS 684 Section 2.5.

5.4 Determination of copper and iron

According to ISO 8294: 1994, IUPAC 2.631 or AOAC 990.05 or AOCS Ca 18b-91.

5.5 Determination of relative density

According to IUPAC 2.101, with the appropriate conversion factor.

5.6 Determination of apparent density

According to ISO 6883: 2000 with the appropriate conversion factor or AOCS Cc 10c-95.

5.7 Determination of refractive index

According to IUPAC 2.102 or ISO 6320: 2000 or AOCS Ce 7-25.

5.8 Determination of saponification value (SV)

According to IUPAC 2.202 or ISO 3657: 1988.

5.9 Determination of iodine value (IV)

Wijs - according to IUPAC 2.205/1, ISO 3961: 1996, AOAC 993.20, or AOCS Cd 1d-92 (97), or by calculation - AOCS Cd 1b-87 (97). The method to be used for specific named vegetable oils is stipulated in the Standard.

5.10 Determination of unsaponifiable matter

According to IUPAC 2.401 (part 1-5) or ISO 3596: 2000 or ISO 18609: 2000.

5.11 Determination of peroxide value (PV)

According to IUPAC 2.501 (as amended), AOCS Cd 8b - 90 (97) or ISO 3961: 1998.

5.12 Determination of total carotenoids

According to BS 684 Section 2.20.

5.13 Determination of acidity

According to IUPAC 2.201 or ISO 660: 1996 or AOCS Cd 3d-63.

5.14 Determination of sterol content

According to ISO 12228:1999, or IUPAC 2.403.

5.15 Determination of tocopherol content

According to IUPAC 2.432 or ISO 9936: 1997 or AOCS Ce 8-89.

5.16 Halphen test

According to AOCS Cb 1-25 (97).

5.17 Crismer value

According to AOCS Cb 4-35 (97) and AOCS Ca 5a-40 (97).

5.18 Baudouin test (modified Villavecchia test or sesameseed oil test)

According to AOCS Cb 2-40 (97).

5.19 Reichert value and Polenske value

According to IUPAC 2.204.

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

	Arachis oil	Babassu oil	Coconut oil	Cottonseed oil	Grapeseed oil	Maize oil	Mustardseed oil	Palm oil	Palm kernel
Relative density (x°C/water at 20°C)	0.912-0.920 x=20°C	0.914-0.917 x=25°C	0.908-0.921 x=40°C	0.918-0.926 x=20°C	0.920-0.926 x=20°C	0.917-0.925 x=20°C	0.910-0.921 x=20°C	0.891-0.899 x=50°C	0.899-0.914 x=40°C
Apparent density (g/ml)								0.889-0.895 (50°C)	
Refractive index (ND 40°C)	1.460-1.465	1.448-1.451	1.448-1.450	1.458-1.466	1.467-1.477	1.465-1.468	1.461-1.469	1.454- 1.456 at 50°C	1.448-1.452
Saponification value (mg KOH/g oil)	187-196	245-256	248-265	189-198	188-194	187-195	168-184	190-209	230-254
Iodine value	86-107	10-18	6.3-10.6	100-123	128-150	103-135	92-125	50.0-55.0	14.1-21.0
Unsaponifiable matter (g/kg)	≤ 10	≤ 12	≤ 15	≤ 15	≤ 20	≤ 28	≤ 15	≤ 12	≤ 10
Stable carbon isotope ratio *						-13.71 to -16.36			

* See the following publications:

Woodbury SP, Evershed RP and Rossell JB (1998). Purity assessments of major vegetable oils based on gamma 13C values of individual fatty acids. *JAOCS*, **75** (3), 371-379.

Woodbury SP, Evershed RP and Rossell JB (1998). Gamma 13C analysis of vegetable oil, fatty acid components, determined by gas chromatography-combustion-isotope ratio mass spectrometry, after saponification or regiospecific hydrolysis. *Journal of Chromatography* A, **805**, 249-257.

Woodbury SP, Evershed RP, Rossell JB, Griffith R and Farnell P (1995). Detection of vegetable oil adulteration using gas chromatography combustion / isotope ratio mass spectrometry. *Analytical Chemistry* **67** (15), 2685-2690.

Ministry of Agriculture, Fisheries and Food (1996). Authenticity of single seed vegetable oils. Working Party on Food Authenticity, MAFF, UK.

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

	Palm olein	Palm stearin	Rapeseed oil	Rapeseed oil (low erucic acid)	Safflowerseed oil	Safflowerseed oil (high oleic acid)	Sesameseed oil	Soyabean oil	Sunflowerseed oil	Sunflowerseed oil (high oleic acid)
Relative density (x° C/water at 20°C)	0.899-0.920 x=40°C	0.881-0.891 x=60°C	0.910-0.920 x=20°C	0.914-0.920 x=20°C	0.922-0.927 x=20°C	0.913-0.919 x=20°C; 0.910-0.916 x=25°C	0.915- 0.924 x=20°C	0.919-0.925 x=20°C	0.918-0.923 x=20°C	0.909-0.915 x=25°C
Apparent density (g/ml)	0896-0.898 at 40°C	0.881-0.885 at 60°C				0.912-0.914 at 20°C				
Refractive index (ND 40°C)	1.458-1.460	1.447-1.452 at 60°C	1.465-1.469	1.465-1.467	1.467-1.470	1.460-1.464 at 40°C; 1.466-1.470 at 25°C	1.465-1.469	1.466-1.470	1.461- 1.468	1.467- 1.471 at 25°C
Saponification value (mg KOH/g oil)	194-202	193-205	168-181	182-193	186-198	186-194	186-195	189-195	188-194	182-194
Iodine value	≥ 56	≤ 48	94-120	105-126	136-148	80-100	104-120	124-139	118-141	78-90
Unsaponifiable matter (g/kg)	≤ 13	≤ 9	≤ 20	≤ 20	≤ 15	≤ 10	≤ 20	≤ 15	≤ 15	≤ 15

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples [4] as a percentage of total sterols (see Appendix 1 of the Standard)

	Arachis oil	Babassu oil	Coconut oil	Cottonseed oil	Grapeseed oil	Maize oil	Palm oil	Palm kernel oil
Cholesterol	ND-3.8	1.2-1.7	ND-3.0	0.7-2.3	ND-0.5	0.2-0.6	2.6-6.7	0.6-3.7
Brassicasterol	ND-0.2	ND-0.3	ND-0.3	0.1- 0.3	ND-0.2	ND-0.2	ND	ND-0.8
Campesterol	12.0-19.8	17.7-18.7	6.0-11.2	6.4-14.5	7.5-14.0	16.0-24.1	18.7-27.5	8.4-12.7
Stigmasterol	5.4-13.2	8.7-9.2	11.4-15.6	2.1-6.8	7.5-12.0	4.3-8.0	8.5-13.9	12.0-16.6
Beta-sitosterol	47.4-69.0	48.2-53.9	32.6-50.7	76.0-87.1	64.0-70.0	54.8-66.6	50.2-62.1	62.6-73.1
Delta-5-avenasterol	5.0-18.8	16.9-20.4	20.0-40.7	1.8-7.3	1.0-3.5	1.5-8.2	ND-2.8	1.4-9.0
Delta-7-stigmastenol	ND-5.1	ND	ND-3.0	ND-1.4	0.5-3.5	0.2-4.2	0.2-2.4	ND-2.1
Delta-7-avenasterol	ND-5.5	0.4-1.0	ND-3.0	0.8-3.3	0.5-1.5	0.3-2.7	ND-5.1	ND-1.4
Others	ND-1.4	ND	ND-3.6	ND-1.5	ND-5.1	ND-2.4	ND	ND-2.7
Total sterols (mg/kg)	900-2900	500-800	400-1200	2700-6400	2000-70*00	7000-22100	300-700	700-1400

	Rapeseed oil (low erucic acid)	Safflowerseed oil	Safflowerseed oil (high oleic acid)	Sesameseed oil	Soyabean oil	Sunflowerseed oil	Sunflowerseed oil (high oleic acid)
Cholesterol	ND-1.3	ND- 0.7	ND-0.5	0.1-0.5	0.2-1.4	ND-0.7	ND-0.5
Brassicasterol	5.0-13.0	ND-0.4	ND-2.2	0.1-0.2	ND-0.3	ND-0.2	ND-0.3
Campesterol	24.7-38.6	9.2-13.3	8.9-19.9	10.1-20.0	15.8-24.2	6.5-13.0	5.0-13.0
Stigmasterol	0.2-1.0	4.5-9.6	2.9-8.9	3.4-12.0	14.9-19.1	6.0-13.0	4.5-13.0
Beta-sitosterol	45.1-57.9	40.2-50.6	40.1-66.9	57.7-61.9	47.0-60	50-70	42.0-70
Delta-5-avenasterol	2.5-6.6	0.8-4.8	0.2-8.9	6.2-7.8	1.5-3.7	ND-6.9	1.5- 6.9
Delta-7-stigmastenol	ND-1.3	13.7-24.6	3.4-16.4	0.5-7.6	1.4-5.2	6.5-24.0	6.5-24.0
Delta-7-avenasterol	ND-0.8	2.2-6.3	ND-8.3	1.2-5.6	1.0-4.6	3.0-7.5	ND-9.0
Others	ND-4.2	0.5-6.4	4.4-11.9	0.7-9.2	ND-1.8	ND-5.3	3.5-9.5
Total sterols (mg/kg)	4500-11300	2100-4600	2000-4100	4500-19000	1800-4500	2400-5000	1700-5200

ND - Non-detectable, defined as ≤ 0.05%

[4] Data taken from species as listed in Section 2.

Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples [5] (mg/kg) (see Appendix 1 of the Standard)

	Arachis oil	Babassu oil	Coconut oil	Cottonseed oil	Grapeseed oil	Maize oil	Palm oil	Palm kernel oil
Alpha-tocopherol	49-373	ND	ND-17	136-674	16-38	23-573	4-193	ND-44
Beta-tocopherol	ND-41	ND	ND-11	ND-29	ND-89	ND-356	ND-234	ND-248
Gamma-tocopherol	88-389	ND	ND-14	138-746	ND-73	268-2468	ND-526	ND-257
Delta-tocopherol	ND-22	ND	ND	ND-21	ND-4	23-75	ND-123	ND
Alpha-tocotrienol	ND	25-46	ND-44	ND	18-107	ND-239	4-336	ND
Gamma-tocotrienol	ND	32-80	ND-1	ND	115-205	ND-450	14-710	ND-60
Delta-tocotrienol	ND	9-10	ND	ND	ND-3.2	ND-20	ND-377	ND
Total (mg/kg)	170-1300	60-130	ND-50	380-1200	240-410	330-3720	150-1500	ND-260

	Rapeseed oil (low erucic acid)	Safflowerseed oil	Safflowerseed oil (high oleic acid)	Sesameseed oil	Soyabean oil	Sunflowerseed oil	Sunflowerseed oil (high oleic acid)
Alpha-tocopherol	100-386	234-660	234-660	ND-3.3	9-352	403-935	400-1090
Beta-tocopherol	ND-140	ND-17	ND-13	ND	ND-36	ND-45	10-35
Gamma-tocopherol	189-753	ND-12	ND-44	521-983	89-2307	ND-34	3-30
Delta-tocopherol	ND-22	ND	ND-6	4-21	154-932	ND-7.0	ND-17
Alpha-tocotrienol	ND	ND	ND	ND	ND-69	ND	ND
Gamma-tocotrienol	ND	ND-12	ND-10	ND-20	ND-103	ND	ND
Delta-tocotrienol	ND	ND	ND	ND	ND	ND	ND
Total (mg/kg)	430-2680	240-670	250-700	330-1010	600-3370	440-1520	450-1120

ND - Non-detectable.
Note: Maize oil also contains ND-52 mg/kg beta tocotrienol.

[5] Data taken from species as listed in Section 2.

RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK

APPENDIX 2 - PROPOSED DRAFT CODEX LIST OF ACCEPTABLE PREVIOUS CARGOES
(At Steps 5/8 of the Procedure)

Notes

(1) Where it is not possible to transport edible fats and oils in bulk in tankers reserved for foodstuffs only, the possibility of contamination incidents is reduced by carriage in tankers in which the previous cargo is included in the list below. * Application of this list must be combined with: good design of the system; adequate cleaning routines; and, effective inspection procedures (see Section 2.1.3 of the Code).

(2) Previous cargoes not on the list are only acceptable if they are agreed upon by the competent authorities of the importing country (see section 2.1.3 of the Code).

(3) The list below is not necessary a final list but is subject to review and possible amendment to take account of scientific or technical developments. Additional substances are being considered for inclusion in the list and may be included as acceptable following an appropriate risk assessment. This should include consideration of:

- Toxicological properties, including genotoxic and carcinogenic potential (account may be taken of the opinions of JECFA or other recognised bodies);
- Efficacy of cleaning procedures between cargoes;
- Dilution factor in relation to the potential amount of residue of the previous cargo and any impurity which the previous cargo might have contained, and the volume of oil or fat transported;
- Solubility of possible contaminating residues;
- Subsequent refining/processing of the oil or fat;
- Availability of analytical methods for the detection of trace amounts of residues or for verifying the absence of contamination; and,
- Reactivity of oils/fats with contaminating residues.

List of acceptable previous cargoes

Substance (synonyms)	CAS Number
Acetic acid (ethanoic acid; vinegar acid; methane carboxylic acid)	64-19-7
Acetic anhydride (ethanoic anhydride)	108-24-7
Acetone (dimethylketone; 2-propanone)	67-64-1
Acid oils and fatty acid distillates - from animal, marine and vegetable fats and oils	
Ammonium hydroxide (ammonium hydrate; ammonia solution; aqua ammonia)	1336-21-6
Ammonium polyphosphate	68333-79-9
Animal, marine and vegetable oils and fats (including hydrogenated oils and fats) - other than cashew shell nut oil and tall oil	
Beeswax – white	8006-40-4
Beeswax – yellow	8012-89-3
Benzyl alcohol (pharmaceutical and reagent grades)	100-51-6

* This list is currently under development.

Substance (synonyms)	**CAS Number**
1,3-Butanediol (1,3-butylene glycol)	107-88-0
1,4-Butanediol (1,4-butylene glycol)	110-63-4
Butyl acetate, n-	123-86-4
Butyl acetate, sec-	105-46-4
Butyl acetate, tert-	540-88-5
Calcium chloride solution	10043-52-4
Calcium lignosulphonate liquid (lignin liquor; sulphite lye)	8061-52-7
Candelilla wax	8006-44-8
Carnauba wax (Brazil wax)	8015-86-9
Cyclohexane (hexamethylene; hexanaphthene; hexahydrobenzene)	110-82-7
Ethanol (ethyl alcohol; spirits)	64-17-5
Ethyl acetate (acetic ether; acetic ester; vinegar naphtha)	141-78-6
2-Ethylhexanol (2-ethylhexy alcohol)	104-76-7
Fatty acids	
Arachidic acid (eicosanoic acid)	506-30-9
Behenic acid (docosanoic acid)	112-85-6
Butyric acid (n-butyric acid; butanoic acid; ethyl acetic acid; propyl forinic acid)	107-92-6
Capric acid (n-decanoic acid)	334-48-5
Caproic acid (n-hexanoic acid)	142-62-1
Caprylic acid (n-octanoic acid)	124-07-2
Erucic acid (cis-13-docosenoic acid)	112-86-7
Heptoic acid (n-heptanoic acid)	111-14-8
Lauric acid (n-dodecanoic acid)	143-07-7
Lauroleic acid (dodecenoic acid)	4998-71-4
Linoleic acid (9,12-octadecadienoic acid)	60-33-3
Linolenic acid (9,12,15-octadecatrienoic acid)	463-40-1
Myristic acid (n-tetradecanoic acid)	544-63-8
Myristoleic acid (n-tetradecenoic acid)	544-64-9
Oleic acid (n-octadecenoic acid)	112-80-1
Palmitic acid (n-hexadecanoic acid)	57-10-3
Palmitoleic acid (cis-9-hexadecenoic acid)	373-49-9
Pelargonic acid (n-nonanoic acid)	112-05-0
Ricinoleic acid (cis-12-hydroxy octadec-9-enoic acid; castor oil acid)	141-22-0
Stearic acid (n-octadecanoic acid)	57-11-4
Valeric acid (n-pentanoic acid; valerianic acid)	109-52-4
Fatty alcohols	
Butyl alcohol (1-butanol; butyric alcohol)	71-36-3
Caproyl alcohol (1-hexanol; hexyl alcohol)	111-27-3
Capryl alcohol (1-n-octanol; heptyl carbinol)	111-87-5
Cetyl alcohol (alcohol C-16; 1-hexadecanol; cetylic alcohol; palmityl alcohol; n-prirnary hexadecyl alcohol)	36653-82-4
Decyl alcohol (1-decanol)	112-30-1
Iso decyl alcohol (isodecanol)	25339-17-7
Enanthyl alcohol (1-heptanol; heptyl alcohol)	111-70-6
Lauryl alcohol (n-dodecanol; dodecyl alcohol)	112-53-8
Myristyl alcohol (1-tetradecanol; tetradecanol)	112-72-1
Nonyl alcohol (1-nonanol; pelargonic alcohol; octyl carbinol)	143-08-8
Iso nonyl alcohol (isononanol)	27458-94-2
Oleyl alcohol (octadecenol)	143-28-2

Substance (synonyms)	CAS Number
Stearyl alcohol (1-octadecanol)	112-92-5
Tridecyl alcohol (I-tridecanol)	27458-92-0
Fatty acid esters – combination of above fatty acids and fatty alcohols	
e.g. Butyl myristate	110-36-1
Cetyl stearate	110-63-2
Oleyl palmitate	2906-55-0
Fatty alcohol blends	
Cetyl stearyl alcohol (C16-C18)	67762-27-0
Lauryl myristyl alcohol (C12-C14)	
Formic acid (methanoic acid; hydrogen carboxylic acid)	64-18-6
Glycerine (glycerol, glycerin)	56-81-5
Heptane	142-82-5
n-Hexane	110-54-3
Iso-butyl acetate	110-19-0
Iso-octyl alcohol (isooctanol)	26952-21-6
Iso-propyl alcohol (isopropanol; dimethyl carbinol; 2-propanol)	67-63-0
Limonene (dipentene)	138-86-3
Magnesium chloride solution	7786-30-3
Methanol (methyl alcohol)	67-56-1
Methyl ethyl ketone (2-butanone; MEK)	78-93-3
Methyl isobutyl ketone (4-methyl-2-pentanone; iso propylacetone; MIBK)	108-10-1
Methyl tertiary butyl ether (MBTE)	1634-04-4
Molasses	57-50-1
Montan wax	8002-53-7
Pentane	109-66-0
Petroleum wax (parafin wax)	8002-74-2
Phosphoric acid (ortho phosphoric acid)	7664-38-2
Potable water – only acceptable where the immediate previous cargo is also on the list	7732-18-5
Polypropylene glycol	25322-69-4
Potassium hydroxide solution (caustic potash)	1310-58-3
Propyl acetate	109-60-4
Propyl alcohol (propane-1-ol; l-propanol)	71-23-8
Propylene glycol, 1,2- (1,2-propylene glycol; propan-1,2-diol; 1.2-dihydroxypropane; monopropylene glycol (MPG); methyl glycol)	57-55-6
Propylene tetramer ((tetrapropylene; dodecene)	6842-15-5
Silicon dioxide (microsilica)	7631-86-9
Sodium hydroxide solution (caustic soda, lye; sodium hydrate; white caustic)	1310-73-2
Sodium silicate (water glass)	1344-09-8
Sorbitol (D-sorbitol; hexahydric alcohol; D-sorbite)	50-70-4
Soybean oil epoxidized	8013-07-8
Sulphuric acid	7664-93-9
Urea ammonia nitrate solution (UAN)	
White mineral oils	8042-47-5

APPENDIX 3 – PROPOSED DRAFT CODEX LIST OF BANNED IMMEDIATE PREVIOUS CARGOES

(At Steps 5/8 of the Procedure)

Notes

(1) Cargoes not included in the list are only acceptable if they are agreed upon by the competent authorities of the importing country (see section 2.1.3 of the Code).

List of banned immediate previous cargoes

Substance (synonyms in brackets)	CAS number
Acetone cyanohydrin (ACH; α-hydroxyisobutyronitrile; 2-methyllactonitrile)	75-86-5
Acrylic acid (acroleic acid; propenoic acid)	79-10-7
Acrylonitrile (ACN; 2-propenenitrile; vinyl cyanide)	107-13-1
Adiponitrile (1,4-dicyanobutane)	111-69-3
Aniline (phenylamine; aminobenzene)	62-53-3
Benzene	71-43-2
1,3-Butadiene (vinylethylene)	106-99-0
n-Butylacrylate	141-32-2
tert-Butylacrylate	1663-39-4
Carbon tetrachloride (CTC; tetrachloromethane; perchloromethane)	56-23-5
Cardura E (tradename for glycidyl esters of versatic 911 acid)	11120-34-6
Cashew nut shell oil (CNSL; cashew nut shell liquid)	8007-24-7
Chloroform (TCM)	67-66-3
Cresol - ortho, meta, para (cresylic acid)	95-48-7 108-39-4 106-44-5
Dibutylamine	111-92-2
Diethanolamine (DEA; di-2-hydroxyethylamine)	111-42-2
Diethylenetriamine	111-40-2
Diglycidylether of bisphenol A	1675-54-3
Di-isopropylamine	110-97-4
Dipropylamine	108-18-9
m-Divinylbenzene (DVB; vinyl styrene)	1324-74-0
Epichlorohydrin (chloropropylene oxide; EPI)	106-89-8
Epoxy resins (uncured)	
Ethyl acrylate	140-88-5
Ethylene dibromide (EDB; 1,2-dibromoethane; ethylene bromide)	106-93-4
Ethylene dichloride (EDC; 1,2-dichloroethane; ethylene chloride) *	107-06-2
Ethylene glycol (MEG; monoethylene glycol)	107-21-1
Ethylene glycol monobutyl ether (2-butoxyethanol)	111-76-2
Ethylene oxide (E0)	75-21-8
2-Ethylhexyl acrylate	103-11-7
Ethanolamine (MEA; monoethanolamine; colamine; 2-aminoethanol; 2-hydroxyethylamine)	141-43-5
Ethylenediamine (1,2-diaminoethane)	107-15-3
Formaldehyde	50-00-0
Furfuryl alcohol (furyl carbinol)	98-00-0
Glutaraldehyde	111-30-8
Hexamethylenediamine (1,6-diaminohexane; 1,6-hexanediamine)	124-09-4

Substance (synonyms in brackets)	CAS number
Isocyanates These include for example:	
Toluene di-isocyanate (TDI)	1321-38-6
Polyphenyl polymethylene isocyanate (PAPI, PMPPI)	9016-87-9
Di-phenyl methane di-isocyanate (MDI)	101-68-8
Methyl isocyanate	624-83-9
Methylene diisocyanate (diisocyanatomethane)	4747-90-4
Leaded products (shall not be carried as three previous cargoes)	
Lube oil additives	
Methyl acrylate	96-33-3
Methyl methacrylate monomer	80-62-6
Methyl styrene monomer (vinyl toluene)	25013-15-4
α Methyl styrene monomer (AMS)	98-83-9
ρ Methyl styrene monomer (PMS)	622-97-9
Methylene chloride (MEC; dichloromethane; methylene dichloride)	75-09-2
Monoethylene glycol (MEG; ethylene glycol)	107-21-1
Morpholine	110-91-8
Morpholine ethanol (N-hydroxyethyl morpholine)	622-40-2
Nitric acid (aqua fortis; engravers acid; azotic acid)	7697-37-2
Nitropropane (1 isomers and mixtures) (2 isomers and mixtures)	108-03-2 79-46-9
Perchloroethylene (PEC)	
Phthalates (These include -	
Di-allyl phthalate (DAP)	131-17-9
Di-isodecyl phthalate (DIDP)	19269-67-1
Di-isononyl phthalate (DINP)	68515-48-0
Di-isooctyl phthalate (DIOP)	27554-26-3
Di-octyl phthalate (DOP)	117-81-7
n-Propylamine	622-80-0
Propylene oxide (methyl oxirane; 1,2-epoxypropane)	75-56-9
Pyridine	110-86-1
Styrene monomer (vinyl benzene; phenyl ethylene; cinnamene) *	100-42-5
Tall oil	8002-26-4
Tall oil fatty acid equivalent to ASTM TYPE III	61790-12-3
Telone II (1-propene, 1,3-dichloro; 1,3-dichloropropene)	
Toluene	
Toluidine (ortho)	
Transformer oils of PCB type (e.g. trichlorobiphenyl)	25323-29-2
Trichloroethane (1,1,1- and 1,1,2-isomers)	
Triethylene glycol (TEG)	
Vinyl acetate monomer (VAM)	
Vinyl chloride monomer	75-01-4
Xylene (ortho, meta, para)	

* Banned as any one of the last two cargoes in organically coated tanks and as the last cargo in stainless steel and inorganically coated tanks.

DRAFT REVISED STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS
(At Step 6 of the Procedure)

The Appendix to this standard contains provisions which are intended for voluntary application by commercial partners and not for application by governments.

1. SCOPE

This standard applies to olive oils and olive-pomace oils described in Section 2 presented in a state for human consumption.

2. DESCRIPTION

2.1 ***Olive oil*** is the oil obtained solely from the fruit of the olive tree (*Olea europaea* L), to the exclusion of oils obtained using solvents or re-esterification processes and of any mixture with oils of other kinds.

2.2 ***Virgin olive oil*** is the oil obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions, particularly thermal conditions, that do not lead to alterations in the oil, and which has not undergone any treatment other than washing, decanting, centrifuging and filtration.

2.3 ***Olive-pomace oil*** is the oil obtained by treating olive pomace with solvents, to the exclusion of oils obtained by re-esterification processes and of any mixture with oils of other kinds.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 ***Extra virgin olive oil***: virgin olive oil with a free acidity, expressed as oleic acid, of not more than 1 gram per 100 grams and the organoleptic characteristics corresponding to those laid down for this category in section 3.8.

3.2 ***Virgin olive oil***: virgin olive oil with a free acidity, expressed as oleic acid, of not more than 2.0 grams per 100 grams and the organoleptic characteristics corresponding to those laid down for this category in section 3.8.

3.3 ***Ordinary virgin olive oil***: virgin olive oil with a free acidity, expressed as oleic acid, of not more than 3.3 grams per 100 grams and the organoleptic characteristics corresponding to those laid down for this category in section 3.8. [6]

3.4 ***Refined olive oil*** is the olive oil obtained from virgin olive oils by refining methods which do not lead to alterations in the initial glyceridic structure. It has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams. [1]

3.5 ***Olive oil***, marketed as such, is the oil consisting of a blend of refined olive oil and virgin olive oil, as identified in section 2 and meeting the requirements identified in section 3.1, 3.2 and 3.3. It has a free acidity, expressed as oleic acid, of not more than 1.5 grams per 100 grams. [1]

3.6 ***Refined olive-pomace oil***: obtained from crude olive-pomace oil by refining methods which do not lead to alterations in the initial glyceridic structure. It is intended for use either as it is or else in blends with virgin olive oil, as identified in section 2 and meeting the requirements identified in section 3.1, 3.2 and 3.3. It has a free acidity, expressed as oleic acid, of not more than 0.3 grams per 100 grams.

[6] This product may only be sold direct to the consumer if permitted in the country of retail sale.

3.7 ***Olive-pomace oil***: blend of refined olive-pomace oil and virgin olive oil, as identified in section 2 and meeting the requirements identified in section 3.1, 3.2 and 3.3. It has a free acidity, expressed as oleic acid, of not more than 1.5 grams per 100 grams.

3.8 Organoleptic characteristics (odour and taste) of virgin olive oils

	Median of the defect	Median of the fruity attribute
Extra virgin olive oil	Me = 0	Me > 0
Virgin olive oil	0 < Me ≤ 2.5	Me > 0
Ordinary virgin olive oil	2.5 < Me ≤ 6.0 *	

* or when the median of the defect is less than or equal to 2.5 and the median of the fruity attribute is equal to 0.

3.9 Fatty acid composition as determined by gas liquid chromatography (% total fatty acids)

	Virgin olive oils	Olive oil Refined olive oil	Olive-pomace oils
Fatty acid			
C14:0	0.0 - 0.05	0.0 - 0.05	0.0 - 0.05
C16:0	7.5 - 20.0	7.5 - 20.0	7.5 - 20.0
C16:1	0.3 - 3.5	0.3 - 3.5	0.3 - 3.5
C17:0	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3
C17:1	0.0 - 0.3	0.0 - 0.3	0.0 - 0.3
C18:0	0.5 - 5.0	0.5 - 5.0	0.5 - 5.0
C18:1	55.0 - 83.0	55.0 - 83.0	55.0 - 83.0
C18:2	3.5 - 21.0	3.5 - 21.0	3.5 - 21.0
C18:3	0.0 - 0.9	0.0 - 0.9	0.0 - 0.9
C20:0	0.0 - 0.6	0.0 - 0.6	0.0 - 0.6
C20:1	0.0 - 0.4	0.0 - 0.4	0.0 - 0.4
C22:0	0.0 - 0.2	0.0 - 0.2	0.0 - 0.3
C24:0	0.0 - 0.2	0.0 - 0.2	0.0 - 0.2
Trans fatty acids			
C18:1 T	0.0 - 0.05	0.0 - 0.20	0.0 - 0.40
C18:2 T + C18:3 T	0.0 - 0.05	0.0 - 0.30	0.0 - 0.35

3.10 Sterol and triterpene alcohols composition

3.10.1 <u>Desmethylsterols composition (% total sterols)</u>

Cholesterol	≤ 0.5
Brassicasterol	≤ 0.2 for olive-pomace oils ≤ 0.1 for other grades
Campesterol	≤ 4.0
Stigmasterol	< campesterol
Delta-7-stigmastenol	≤ 0.5
Beta-sitosterol + delta-5-avenasterol + delta-5-23-stigmastadienol + clerosterol + sitostanol + delta-5-24-stigmastadienol	≥ 93.0

3.10.2. <u>Minimum value for total sterols</u>

Virgin olive oils Refined olive oil Olive oil	1,000 mg/kg
Refined olive-pomace oil	1,800 mg/kg
Olive-pomace oil	1,600 mg/kg

3.10.3. Maximum erythrodiol and uvaol content (% total sterols)

Virgin olive oils	)	
Refined olive oil	)	≤ 4.5
Olive oil	)	

3.11 Waxes

	Maximum level
Virgin olive oils	250 mg/kg
Refined olive oil	350 mg/kg
Olive oil	350 mg/kg

3.12 Detection of seed oils

	Maximum difference between the actual and theoretical ECN 42 triglyceride contents
Virgin olive oils	0.2
Refined olive oil	0.3
Olive oil	0.3
Olive-pomace oils	0.5

3.13 Stigmastadiene content (detection of refined vegetable oils)

	Maximum stigmastadiene content (mg/kg)
Virgin olive oils	0.15
Refined olive oil	50

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-tocopherol to the above products is permitted to restore natural tocopherol lost in the refining process. The concentration of alpha-tocopherol in the final product should not exceed 200 mg/kg.

5. CONTAMINANTS

5.1 Heavy metals

The products covered by the provisions of this standard shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

	MAXIMUM PERMISSIBLE CONCENTRATION
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

5.2 Pesticide residues

The products covered by the provisions of this standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

5.3 Halogenated solvents

Maximum concentration of individual halogenated solvents	0.1 mg/kg
Maximum sum of concentration of all halogenated solvents	0.2 mg/kg

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. LABELLING

The products shall be labelled in accordance with the Codex General Standard for Labelling of Prepackaged Foods (CODEX STAN 1 – 1985, Rev. 1-1991).

7.1 Name of the food

The name of the product shall be consistent with the descriptions as shown in Section 3 of this standard. In no case shall the designation ‘olive oil’ be used to refer to olive-pomace oils.

7.2 Free acidity

The free acidity of the oil shall be declared on the label and expressed in terms of oleic acid.

7.3 Labelling of Non-Retail Containers

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

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

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Determination of the organoleptic characteristics

According to COI/T.20/Doc. no. 15.

8.2 Determination of free acidity

According to IUPAC 2.201 or ISO 660: 1996.

8.3 Determination of the fatty acid composition

According to IUPAC 2.301, 2.302 and 2.304 or ISO 5508: 1990 and 5509: 2000 or AOCS Ce 2-66, Ch 2-91.

8.4 Determination of *trans* fatty acids content

According to COI/T.20/Doc no. 17 or IUPAC 2.304 or ISO 15304: 2001 or AOCS Ce 1f-96.

8.5 Determination of wax content

According to COI/T.20/Doc. no. 18.

8.6 Calculation of the difference between the real and theoretical ECN 42 triglyceride content

According to IUPAC 2.507 (for purification of oils prior to triglyceride analysis) and IUPAC 2.324 and COI/T.20/Doc. no. 20.

8.7 Determination of sterols composition and content

According to COI/T.20/Doc. no. 10, or IUPAC 2.403 or ISO 12228: 1999.

8.8 Determination of erythrodiol content

According to IUPAC 2.431.

8.9 Detection of refined vegetable oils

According to COl/T.20/Doc. no. 11 and COl/T.20/Doc. no. 16 or ISO 15788-1: 1999.

8.10 Determination of alpha-tocopherol

According to IUPAC 2.432 or ISO 9936-1997.

8.11 Determination of arsenic

According to AOAC 952.13, IUPAC 3.136, AOAC 942.17, or AOAC 985.16.

8.12 Determination of lead

According to IUPAC 2.632, AOAC 994.02 or ISO 12193: 1994.

8.13 Detection of traces of halogenated solvents

According to COI/T.20/Doc. no. 8, Corr.1, 1990.

8.14 Sampling

According to ISO 661: 1989 and ISO 5555: 2001.

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

1. QUALITY CHARACTERISTICS

1.1 Moisture and volatile matter:

	Maximum level
Virgin olive oil	0.2 %
Refined olive oil	0.1 %
Olive oil	0.1 %
Refined olive-pomace oil	0.1 %
Olive-pomace oil	0.1 %

1.2 Insoluble impurities:

Virgin olive oil	0.1 %
Refined olive oil	0.05 %
Olive oil	0.05 %
Refined olive-pomace oil	0.05 %
Olive-pomace oil	0.05 %

1.3 Trace metals:

Iron (Fe)	3 mg/kg
Copper (Cu)	0.1 mg/kg

1.4 Peroxide value

Virgin olive oil	20 milliequivalents of active oxygen/kg oil
Refined olive oil	5 milliequivalents of active oxygen/kg oil
Olive oil	15 milliequivalents of active oxygen/kg oil
Refined olive-pomace oil	5 milliequivalents of active oxygen/kg oil
Olive-pomace oil	15 milliequivalents of active oxygen/kg oil

1.5 Organoleptic characteristics:

1.5.1 Virgin olive oil:

See Section 3 of Standard.

1.5.2 Others:

	Odour	Taste	Colour
Refined olive oil	acceptable	acceptable	light yellow
Olive oil	good	good	light, yellow to green
Refined olive-pomace oil	acceptable	acceptable	light, yellow to brownish yellow
Olive-pomace oil	acceptable	acceptable	light, yellow to green

1.5.3 Appearance at 20°C for 24 hours:

Limpid

2. COMPOSITION CHARACTERISTICS

2.1 Saturated fatty acids at the 2-position in the triglyceride (sum of palmitic & stearic acids):

	Maximum level
Virgin olive oil	1.5 %
Refined olive oil	1.8 %
Olive oil	1.8 %
Refined olive-pomace oil	2.2 %
Olive-pomace oil	not specified

3. CHEMICAL AND PHYSICAL CHARACTERISTICS

3.1 Relative density:

0.910-O.916 (20°C/water at 20°C)

3.2 Refractive index:

Virgin olive oil) Refined olive oil) Olive oil)	1.4677-1.4705 (n_D 20°C)
Olive-pomace oil	1.4680-1.4707 (n_D 20°C)

3.3 Saponification value:

Virgin olive oil) Refined olive oil) Olive oil)	184-196 mg KOH/kg
Olive-pomace oil	182-193 mg KOH/kg

3.4 Iodine value (Wijs):

Virgin olive oil) Refined olive oil) Olive oil)	75-94
Olive-pomace oil	75-92

3.5 Unsaponifiable matter:

	Maximum level
Virgin olive oil) Refined olive oil) Olive oil)	15 g/kg
Olive-pomace oil	30 g/kg

3.6 Absorbency in ultra-violet

	Absorbency in ultra-violet at 270 nm	Delta E
Extra virgin olive oil	≤ 0.25	≤ 0.01
Fine virgin olive oil	≤ 0.25	≤ 0.01
Ordinary virgin olive oil	≤ 0.30 (*)	≤ 0.01
Refined olive oil	≤ 1.10	≤ 0.16
Olive oil	≤ 0.90	≤ 0.15
Refined olive-residue oil	≤ 2.00	≤ 0.20
Olive-residue oil	≤ 1.70	≤ 0.18

* After passage of the sample through activated alumina, absorbency at 20 nm. shall be equal to or less than 0.11.

4. METHODS OF ANALYSIS AND SAMPLING

4.1 Determination of moisture and volatile matter

According to IUPAC 2.601 or ISO 662: 1998.

4.2 Determination of the insoluble impurities in light petroleum

According to IUPAC 2.604 or ISO 663: 2000.

4.3 Determination of trace metals

According to IUPAC 2.631 or ISO 8294: 1994 or AOAC 990.05.

4.4 Determination of saponification value

According to IUPAC 2.202 or ISO 3657: 1988.

4.5 Determination of unsaponifiable matter

According to IUPAC 2.401 (part 1-5) or ISO 3596: 2000 or ISO 18609: 2000.

4.6 Determination of the fatty acids in the 2-position of the triglycerides

According to IUPAC 2.210 or ISO 6800: 1997.

4.7 Determination of the peroxide value

According to IUPAC 2.501 or AOCS Cd 8b-90 (97) or ISO 3960: 1998.

4.8 Determination of relative density

According to IUPAC 2.101, with the appropriate conversation factor.

4.9 Determination of refractive index

According to IUPAC 2.102 or ISO 6320: 2000.

4.10 Determination of iodine value

According to IUPAC 2.205/1, ISO 3961: 1996, AOAC 993.20 or AOCS Cd 1d-92 (97).

4.11 Determination of the organoleptic characteristics

According to COl/T.20/Doc. no. 15.

4.12 Determination of the absorbency in ultra-violet

According to COI/T.20/Doc. no. 19.

4.13 Sampling

According to ISO 661: 1989 and ISO 5555: 2001.

PROPOSED DRAFT STANDARD FOR FAT SPREADS AND BLENDED SPREADS
(At Step 5 of the Procedure)

1. SCOPE

This Standard applies to fat products, containing not less than 10% and not more than 90% fat, intended primarily for use as spreads. However, this Standard does not apply to fat spreads derived exclusively from milk and/or milk products to which only other substances necessary for their manufacture have been added. It only includes margarine and products used for similar purposes and excludes products with a fat content of less than 2/3 of the dry matter (excluding salt). Butter and dairy spreads are not covered by this Standard.

2. DESCRIPTION

2.1 Fat Spreads and Blended Spreads

The products covered by this Standard are foods that are plastic or fluid emulsions, principally of water and edible fats and oils.

2.2 Edible Fats and Oils

"Edible fats and oils" means foodstuffs composed mainly of triglycerides of fatty acids. They are of vegetable or animal (including milk) or marine origin. They may contain small amounts of other lipids such as partial glycerides or phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in fat or oil. Fats of animal origin must, if originating from slaughtered animals, be obtained from animals in good health at the time of slaughter and fit for human consumption as determined by a competent authority recognised in national legislation. Fats and oils that have been subjected to processes of physical or chemical modification including fractionation, inter-esterification or hydrogenation are included.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

3.1.1 Fat Spreads

3.1.1.1 For these products, any milk fat content must be no more than 3% of the total fat content.

3.1.1.2 The fat content shall be as follows:

(a)	Margarine	≥ 80%
(d)	Fat spreads [7]	< 80%

3.1.2 Blended Spreads

3.1.2.1 These are blended spreads containing more than 3% milk fat. However a higher minimum percentage of milk fat may be specified in accordance with the requirements of the country of the retail sale.

3.1.2.2 The fat content shall be as follows:

[7] The term "margarine" may, in some cases, be used in the name of the food as provided for in section 7.1.1.

(a)	Blend	≥ 80–90%
(b)	Three-quarter fat blend	59-61%
(c)	Half fat blend	39-41%
(d)	Blended spread	any other product which meets the specifications in 3.1.2.1., subject to a minimum fat content of 10%.

4. FOOD ADDITIVES

4.1 Colours

		Maximum level
100	(i) Curcumin	GMP
160a	(i) Beta-carotene	25 mg/kg
160a	(ii) Natural carotenes	GMP
160b	Annatto extracts	10 mg/kg (calculated as total bixin or norbixin)
160e	Beta-apo-carotenal	25 mg/kg
160f	Beta-apo-8'-carotenoic acid, methyl or ethyl ester	25 mg/kg

4.2 Flavours

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

4.3 Emulsifiers

			Maximum level
322	Lecithins	)	GMP
	Polyoxyethylene (20) sorbitan:	)	
432	Monolaurate	)	
433	Mono-oleate	)	10 g/kg singly or in combination
434	Monopalmitate	)	for baking purposes only
435	Monostearate	)	
436	Tristearate	)	
471	Mono- and di-glycerides of fatty acids		GMP
472(a)	Acetic and fatty acid esters of glycerol	)	
472(b)	Lactic and fatty acid esters of glycerol	)	
472(c)	Citric and fatty acid esters of glycerol	)	
472(d)	Tartaric acid esters of mono- and di-glycerides of fatty acids	)	GMP
472(e)	Diacetyltartaric and fatty acid esters of glycerol	)	
472(f)	Mixed tartaric, acetic and fatty acid esters of glycerol	)	
473	Sucrose esters of fatty acids		10 g/kg for baking purposes only
474	Sucroglycerides		10 g/kg
475	Polyglycerol esters of fatty acids		5 g/kg
476	Polyglycerol polyricinoleate		4 g/kg (for products containing < 41% fat only)
477	Propylene glycol esters of fatty acids		10g/kg for baking purposes only

			Maximum level
479	Thermally oxidised soya bean oil interacted with mono and diglycerides of fatty acids		5g/kg
481	Sodium lactylates	)	
	(i) sodium stearoyl lactylate	)	10 g/kg singly or in combination
482	Calcium lactylates	)	
	(i) calcium stearoyl lactylate	)	
491	Sorbitan monostearate	)	
492	Sorbitan tristearate	)	
493	Sorbitan monolaurate	)	10 g/kg singly or in combination
494	Sorbitan monooleate	)	
495	Sorbitan monopalmitate	)	

4.4 Preservatives

			Maximum level
200	Sorbic acid	)	2,000 mg/kg singly or in combination
202	Potassium sorbate	)	(as sorbic acid) for fat contents < 60%,
203	Calcium sorbate	)	1,000mg/kg singly or in combination (as sorbic acid) for fat contents > 60%
210	Benzoic acid	)	
211	Sodium benzoate	)	1,000 mg/kg singly or in combination
212	Potassium benzoate	)	(as benzoic acid)
213	Calcium benzoate	)	

4.5 Thickening and stabilising agents

			Maximum level
339	Na orthophosphate	)	
400	Alginic acid	)	
401	Sodium alginate	)	
402	Potassium alginate	)	
403	Ammonium alginate	)	
404	Calcium alginate	)	
405	Propylene glycol alginate	)	
406	Agar	)	
407 (i)	Carrageenan and its Na, K, NH_4 salts (including furcellaran)	)	
410	Carob bean gum	)	
412	Guar Gum	)	
413	Tragacanth gum	)	
414	Gum arabic	)	
415	Xanthan gum	)	
418	Gellan gum	)	
422	Glycerol	)	
440	Pectins	)	
450 (i)	Disodium diphosphate	)	
460 (i)	Mycrocrystalline cellulose		
460 (ii)	Cellulose		

			Maximum level
461	Methyl cellulose	)	
463	Hydroxypropyl cellulose	)	
464	Hydroxypropyl methyl cellulose	)	
465	Methyl ethyl cellulose	)	
466	Sodium carboxymethyl cellulose	)	
500 (i)	Sodium carbonates	)	
500(iii)	Sodium sesquicarbonate	)	
1400	Dextrine roasted starch	)	GMP
1401	Acid treated starch	)	
1402	Alkaline treated starch	)	
1403	Bleached starch	)	
1404	Oxidised starch	)	
1405	Enzyme treated starch	)	
1410	Monostarch phosphate	)	
1412	Distarch phosphate	)	
1413	Phosphated distarch phosphate	)	
1414	Acetylated distarch phosphate	)	
1420	Starch acetate ester. Acetic anhydride	)	
1421	Starch acetate ester. Vinyl acetate	)	
1422	Acetylated distarch adipate	)	
1440	Hydroxypropyl starch	)	
1442	Hydroxypropyl distarch phosphate	)	
	Starch acetate	)	GMP
	Cellulose and microcrystalline cellulose	)	

4.6 Acidity Regulators

			Maximum level
260	Acetic acid	)	
261	Potassium acetate	)	
262 (i)	Sodium acetate	)	
263	Calcium acetate	)	
270	Lactic acid (L-, D- and DL-)	)	
325	Sodium lactate	)	
326	Potassium lactate	)	
327	Calcium lactate	)	
330	Citric acid	)	
331	Sodium citrates	)	
	(i) Sodium dihydrogen citrate	)	
	(iii)Trisodium citrate	)	
332	Potassium citrate	)	GMP
333	Calcium citrate	)	
334	Tartaric acid	)	
335	Sodium tartrates	)	
	(i) Monosodium tartrate	)	
	(ii) Disodium tartrate	)	
336	Potassium tartrate	)	

			Maximum level
337	Sodium potassium tartrate	)	
338	Ortho-Phosphoric acid	)	
339	Sodium phosphates	)	[GMP]
340	Potassium phosphates	)	
341	Calcium orthophosphate	)	
500(i)	Sodium carbonate	)	
500(ii)	Sodium hydrogen carbonate	)	
524	Sodium hydroxide	)	GMP
526	Calcium hydroxide	)	
575	Glucono delta lactone	)	

4.7 Antioxidants

			Maximum level
300	Ascorbic acid (L-)	)	
301	Sodium ascorbate	)	
302	Calcium ascorbate	)	GMP
304	Ascorbyl palmitate	)	
305	Ascorbyl stearate	)	500mg/kg
306	Mixed tocopherols concentrate	)	
307	Alpha-tocopherol	)	
310	Propyl gallate		100 mg/kg
319	Tertiary butyl hydroquinone (TBHQ)	)	200 mg/kg singly or in combination
320	Butylated hydroxyanisole (BHA)	)	
321	Butylated hydroxytoluene (BHT)		75 mg/kg
389	Diluaryl thioproprionate		200 mg/kg
	Any combination of gallates, BHA and BHT		Limits for individual compounds are not exceeded.

4.8 Antioxidant synergists

		Maximum level
384	Iso propyl citrates	100 mg/kg
385	Calcium disodium EDTA	75 mg/kg

4.9 Anti-foaming agents

		Maximum level
900a	Polydimethylsiloxane	10 mg/kg (for frying purposes only)

4.10 Flavour enhancers

			Maximum level
508	Potassium chloride	)	
509	Calcium chloride	)	GMP
510	Ammonium chloride	)	
511	Magnesium chloride	)	
620	Glutamic acid	)	

			Maximum level
621	Monosodium glutamate	)	
622	Monopotassium glutamate	)	10 g/kg singly or in combination
623	Calcium diglutamate	)	(as glutamic acid)
624	Monoammonium glutamate	)	
625	Magnesium diglutamate	)	
626	Guanylic acid	)	
627	Sodium guanylate	)	
628	Potassium guanylate	)	
629	Calcium guanylate	)	
630	Inosinic acid	)	500 mg/kg singly or in combination
631	Disodium inosinate	)	(expressed as guanylic acid)
632	Dipotassium inosinate	)	
633	Calcium inosinate	)	
634	Calcium 5'-ribonucleotides	)	
635	Disodium 5'-ribonucleotides	)	

4.11 Sweeteners

		Maximum level
420	Sorbitol and sorbitol syrup	GMP
421	Mannitol	GMP
953	Isomalt	GMP
965	Maltitol	GMP
966	Lactitol	GMP
967	Xylitol	GMP

4.12 Miscellaneous

		Maximum level
290	Carbon dioxide	GMP
338	Orthophosphoric acid	GMP
1520	Propylene glycol	GMP
551	Silicon dioxide amorphous	500 mg/kg
941	Nitrogen	GMP
942	Nitrous oxide	GMP

5. CONTAMINANTS

5.1 Heavy metals

The products covered by the provisions of this Standard shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

	Maximum permissible concentration
Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

5.2 Pesticide residues

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

6. HYGIENE

6.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

6.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. LABELLING

The product shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (Ref. CODEX STAN 1-1985, Rev. 1-1991; Codex Alimentarius, Volume 1A), Codex Guidelines on the Use of Nutrition Claims (CAC/GL 23-1997) and other relevant food labelling guidelines (Codex Alimentarius, Volume 1A). The product designations should be translated into other languages in a meaningful way and not strictly word by word.

7.1 Name of the Food

The name of the food to be declared on the label shall be as specified in Sections 3.1.1 and 3.1.2.

7.1.1 In accordance with requirements acceptable in the country of retail sale, fat spreads defined in section 3.1.1.2 with a fat content of less than 80% may incorporate the term “margarine” in the name of the food, provided that the term is qualified to make clear the lower fat content. Fat spreads with a fat content of 39 to 41% may be designated as “Minarine” and “Halvarine”

7.2 Labelling of Non-Retail Containers

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

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

7.3 Declaration of Fat Content

7.3.1 The product shall be labelled to indicate average fat content in a manner found acceptable in the country of sale.

7.3.2 The milk fat content of blended spreads (3.1.2) shall be indicated in a manner that is clear and not misleading to the consumer.

8. METHODS OF ANALYSIS AND SAMPLING

8.1 Determination of lead

According to IUPAC 2.632, AOAC 994.02 or ISO 12193: 1994 or AOCS Ca 18c-91.

8.2 Determination of arsenic

According to AOAC 952.13, IUPAC 3.136, AOAC 942.17, or AOAC 985.16.

8.3 Determination of water, solids-non-fat and fat content

According to ISO 3727: 1977, AOAC 920.116 or IDF 80: 1977.

8.4 Determination of milk fat content

According to IUPAC 2.310, AOAC 990.27 or AOCS Ca 5c-87 (97).

[8.5 Determination of salt content

According to IDF 12B: 1988, ISO CD 1738 or AOAC 960.29.]

8.6 Determination of vitamin A content

According to AOAC 985.30.

8.7 Determination of vitamin D content

According to AOAC 981.17.

8.8 Determination of vitamin E content

According to IUPAC 2.432 or ISO 9936: 1997.

RECOMMENDED INTERNATIONAL CODE OF PRACTICE FOR THE STORAGE AND TRANSPORT OF EDIBLE FATS AND OILS IN BULK

PRPOSED DRAFT LIST OF ACCEPTABLE PREVIOUS CARGOES
(At Step 3 of the Procedure)

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	