CODEX ALIMENTARIUS COMMISSION

E

Food and Agriculture Organization of the United Nations

World Health Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - E-mail: codex@fao.org - www.codexalimentarius.org

REP19/FO

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

42nd Session

CICG, Geneva, Switzerland

08 – 12 July 2019

REPORT OF THE 26th SESSION OF THE CODEX COMMITTEE ON FATS AND OILS

Kuala Lumpur, Malaysia

25 February – 01 March 2019

TABLE OF CONTENTS

Pages

Appendices

SUMMARY AND STATUS OF WORK					
Responsible Party	**Purpose**	**Text/Topic**	**Code**	**Step**	**Para(s)**
Members/ CCEXEC 77/ CAC42	Comments/ Adoption	Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Addition of Palm Oil with a higher content of Oleic Acid (OXG)	N10-2015	8	21 and App. II Part B-1
		Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Amendment to the values of the Refractive Index and Apparent Density of Palm Superolein at 40°C	-	-	60 and App. II Part A-1
		Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Replacement of acid value with Free Fatty Acid for Virgin Palm Oil and Inclusion of Free Fatty Acid for Crude Palm Kernel Oil	N11-2015	5/8	67 and App. II. Part C-1
		Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Inclusion of Almond oil, Flaxseed (linseed) oil; Hazelnut oil; Pistachio oil; and Walnut oil (Appendix II, Part C-2) to CAC42 for adoption at Step 5/8.	N12-2017	5/8	88 and App. II. Part C-2
		Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Applicability of the fatty acid composition of other oils listed in Table 1 in relation to their corresponding crude form and consequential deletion of an equivalent note for rice bran oil	-	-	137 and App.II. Part A-2
		Proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Inclusion of Free Fatty acids as quality characteristic criteria for refined rice bran oil	-	-	140 and App.II. Part A-3
		Amendment to the sections of food additives provisions to: CXS 19-1981 (Section 3.3, 3.4 & 3.5); CXS 210-1999 (Section 4.2 & 4.3); and CXS 211-1999 (Section 4.2 & 4.4); CXS 256-2007 (Section 4.1 & 4.7)	-	-	113 (a) (i) (ii) and App. III, Part A&B
CCFA	Action	Requested CCFA to assist in the alignment of the food additive provisions in the Standard for Fish Oils with GSFA	-	-	Para 11
		Forwarded to CCFA a proposal for alignment of food additives in CXS 19-1981; CXS 33-1981; CXS 210-1999; CXS 211-1999; CXS256-2007 to CXS 192-1995 (GSFA);	-	-	113 (b)(i) and App III Part C
		Forwarded a reply to CCFA the technological justification for the use of emulsifiers in FC 02.1.2 of the *General Standard for Food Additives* (GSFA) relevant to CCFO	-	-	113 (b)(ii) App. III Part D
		Forwarded to CCFA a request for Updating CXG 36-1989; and clarification of INS 333(iii)	-	-	113 (b) (iv)
CCMAS	Endorsement	Relevant methods in CXS 210-1999 and CXS 33-1981			67 (ii) 145 and App IV. Part A &B
CAC/CCEXEC	Information	CCFO agreed that no further monitoring on the implementation of the *Standard for Fish Oils* was needed and used of Fatty Acids profiles did not present a problem for identification			126
		CCFO agreed on the mechanisms related to the better management of its work			132
FAO/WHO Members	Information	Previous Cargoes – Evaluation of 23 substances and or provide support, as appropriate			94

SUMMARY AND STATUS OF WORK					
Responsible Party	**Purpose**	**Text/Topic**	**Code**	**Step**	**Para(s)**
CCFICS	Action	Authenticity of different types of oils in the context of ongoing discussions on food authenticity and integrity			119 & 126 (iii)
EWG/Members	Drafting/ Comments	Revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Essential composition of sunflowerseed oils – continue with the drafting of the physical and chemical parameters (Argentina, and Brazil)		1, 2, 3, 4	Para 76
		Revision of the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Inclusion of avocado oil		1, 2, 3	88 (b) & (c)
		Revision of the *Standard for Olive Oils and Pomace Olive Oils* (CODEX STAN 33-1981): Sections 3, 8 and Appendix		1, 2, 3	55 & App. V
		Consider proposals on new substances to be added to the list of acceptable previous cargo (Appendix II to RCP 36-1987)			93

LIST OF ACRONYMS

AOCS	Association Oil Chemists Society
CAC	Codex Alimentarius Commission
CCEXEC	Executive Committee of the Codex Alimentarius Commission
CCFA	Codex Committee on Food Additives
CCFICS	Codex Committee on Food Inspection and Certification Systems
CCMAS	Codex Committee on Methods of Analysis and Sampling
CL	Circular letter
CRD	Conference room document
CXG	Codex Guidelines
CXS[1]	Codex Standard
EU	European Union
EWG	Electronic Working Group
FAO	Food and Agriculture Organization of the United Nations
GL	Guideline
GMP	Good Manufacturing Practice
GSFA	General Standard on Food Additives
PWG	Physical Working Group
RCP	Recommended Code of Practice
RI	Refractive Index
USA	United States of America
USP-NF	The United States Pharmacopeia and The National Formulary
WHO	World Health Organization

[1] CXS is the new designation for Codex Standards (i.e. CODEXSTAN)

INTRODUCTION

1. The twenty-sixth Session of the Codex Committee on Fats and Oils (CCFO) was held in Kuala Lumpur, Malaysia, from 25 February to 1 March 2019 at the kind invitation of the Government of Malaysia. The Session was chaired by Ms Noraini binti Dato' Mohd Othman, Senior Director for Food Safety and Quality, Ministry of Health, Malaysia. The Session was attended by 40 member countries, one member organisation and 5 observer organisations. A list of participants is given in Appendix I.

OPENING OF THE SESSION[1]

2. The Honourable Minister of Health Malaysia, Datuk Seri Dr. Dzulkefly bin Ahmad, Ministry of Health, Malaysia welcomed delegates. In his remarks, he highlighted the increasing demand for healthier oils by consumers, resulting in the introduction of new varieties of oil producing crops and enhanced technological and scientific innovation; the increased trade and consumption of fats and oils worldwide; and the resulting need for CCFO to develop new and update existing standards for fats and oils. He underlined the importance of Codex in protecting human health and ensuring fair practices in food trade and expressed the commitment of Malaysia towards the work of Codex in general and CCFO in particular. He also launched the Codex publication on CCFO, with the theme 'A drop of oil – a tonne of value' in recognition of CCFO being hosted by Malaysia for a decade. Professor Purwiyatno Hariyadi, Vice-Chairperson of the Codex Alimentarius Commission (CAC) also addressed the meeting on behalf of the Chairperson and Vice-Chairpersons of the CAC. He emphasized the importance of CCFO to the mission of Codex Alimentarius, and expressed great appreciation for the continuing support that the government of Malaysia has given to the success of CCFO and other work of Codex.

Division of competence[2]

3. The Committee noted the division of competence between the European Union and its Member States, according to paragraph 5, Rule II of the Rules of Procedure of the Codex Alimentarius Commission.

ADOPTION OF THE AGENDA (Agenda Item 1)[3]

4. The Committee adopted the agenda.

5. The Committee also noted that no paper was submitted for Agenda item 10.

6. The Committee further agreed to establish in-session working groups (WGs) for the following agenda items, open to all members and observers and working in English only, to consider:

   (i) Agenda item 5.4 on inclusion of walnut oil, almond oil, hazelnut oil, pistachio oil, flaxseed oil and avocado oil, in particular the report of the EWG on the six oils taking into account written comments received and to prepare a report with recommendations for consideration by the plenary (agenda item 5.4) (chaired by Iran and co-chaired by India); and

   (ii) The report of the EWG on Alignment of food additives in standards for fats and oils (except fish oils) and technological justification for use of emulsifiers in FC 02.1.2 of the GSFA, taking into account written comments received (agenda item 7); and the matters referred from CCFA contained in document CX/FO 19/26/2 paragraphs 12 to16 (agenda item 2) and to make recommendations for consideration by the plenary (chaired by EU).

MATTERS REFERRED BY THE CODEX ALIMENTARIUS COMMISSION AND OTHER SUBSIDIARY BODIES (Agenda Item 2)[4]

7. The Committee took due note of the matters referred for information and agreed to consider those referred for action under the relevant agenda items.

Methods of analysis and sampling

8. Delegations expressed their interest in the ongoing review and update of the Recommended Methods of Analysis and Sampling (CXS 234-1999) and the decision of CCMAS39 to proceed with the update on the workable package for fats and oils. The Committee noted the list of methods under review (CRD 5) and agreed to the proposal by the delegation of the United States of America to hold a briefing session in the margins of CCFO26 to update interested parties on the different aspects of this work as related to CCFO.

---

1 CRD25 (Opening Remarks – The minister of Health Malaysia),CRD26 (Opening Remarks - Vice-Chair of the CAC)
2 CRD1 (Annotated Agenda – Division of competence between the European Union and its Member States)
3 CX/FO 19/26/1
4 CX/FO 19/26/2, CX/FO 19/26/2 Add.1

Food additives

9. The Committee agreed to consider the matters for action from the Codex Committee on Food Additives (CCFA) under Agenda Item 7 and included discussion of these items in the terms of reference of the in-session working group on alignment of food additive provisions in standards for fats and oils. The Committee also noted the error in the INS for tricalcium citrate noting that it should be INS 333(iii) rather than INS 333(ii).

Food integrity, food authenticity and food fraud

10. The Committee welcomed the discussions of the CCFICS24 on food integrity, food authenticity and food fraud and noted the significant relevance of this work to CCFO in general. The Committee agreed to discuss this matter under Agenda Item 8.

Alignment of the food additive provisions in the Standard for Fish Oils (CXS- 329-2017*) and the food additive provisions in the GFSA.*

11. The Committee noted that CCFO25 had not requested the alignment of the food additive provisions in the Standard for Fish Oils as it was still a draft at that time. It was also noted that the work on alignment for other CCFO standards was nearing completion and the Committee therefore agreed to request CCFA to assist in the alignment of the food additive provisions in the *Standard for Fish Oils* (329-2017) with the appropriate food additive provisions in the GFSA.

DRAFT REVISION TO THE *STANDARD FOR NAMED VEGETABLE OILS* (CXS 210-1999): ADDITION OF PALM OIL WITH HIGH OLEIC ACID (OXG) (Agenda Item 3) [5]

12. The Committee recalled that the proposed revision to the *Standard for Named Vegetable Oils*: addition of palm oil with high oleic acid (OXG) had been adopted at Step 5 by CAC40 with the product definition in Section 2.1 placed in square brackets. The Committee further, recalled its request to CCFL on what might constitute high- and mid-oleic acid in vegetable oils, and noted the reply that the primary role of CCFL is to ensure labels are not false or misleading to consumers; that the issue of oleic acid in vegetable oils was a compositional one and best dealt with by CCFO; and that the principle of consistency of labelling designations when addressing different vegetable oils should be applied based on the compositional characteristics of the oils. The Committee noted the comments received on the draft revision and agreed to first consider the product definition before considering comments on other parts of the standard.

Discussion

2.1 Product Definition

13. The Committee noted the divergent views on the draft product definition. Delegations not in support of the draft definition expressed their concerns on the use of the term “high-oleic acid”, indicating that when compared to other oils included in the *Standard for Named Vegetable Oils* (CXS 210-1999), the proposed levels of oleic acid for OxG were more reflective of a mid-oleic acid range, and thus should be defined as such. They further noted that the use of the term “high-oleic acid” could create confusion for consumers regarding the actual oleic acid content, and was not consistent with promoting fair trade practices.

14. Delegations in favour of retaining the draft product definition, noted that: the level of oleic acid in palm oil from hybrid palm fruit OxG was higher than that of palm oil from traditional plants; Codex did not have a criteria to define composition and naming of fatty acid modified vegetable oil with for low-, medium- and high-fatty acid content; and CCFO had previously agreed to address such issues on a case-by-case basis. It was argued that since this product was primarily used as a food ingredient and was purchased according to technical specifications by manufacturers, it was not likely to cause confusion to consumers. It was further noted that levels of fatty acids should be compared with oils from within the same type of oil rather than between different types of oils.

15. The Committee, recognizing that the issue related to the relative level of oleic acid within the same type of oil, revised the text to reflect the various views and generally agreed to define the product as ‘*Palm oil with a higher content of oleic acid is derived from the fleshy mesocarp of hybrid palm fruit OxG (Elaeis oleifera x Elaeis guineensis)’.*

16. In addition, to ensure further clarity and better interpretation of the product definition, the Committee agreed to include the following text at the end of Section 3.1 of the standard; ‘*Palm oil with a higher content of oleic acid must contain not less than 48% oleic acid (as % of total fatty acids)’.*

[5] REP17/FO Appendix V, CX/FO 19/26/3 (Comments of Albania, Algeria, Bolivia, Canada, Colombia, Cuba, Ecuador, Egypt, European union, Kenya, Mexico, Peru, USA), CX/FO 19/26/3 Add.1 (Comments of Brazil), CRD8 (Comments of Colombia, India and Republic Of Korea), CRD22 (Comments of Ghana)

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

17. The Committee agreed to amend in Table 1 the GLC ranges for the fatty acids C12:0 from ND - 0.4 to ND - 0.6 and for C22:0 from ND to ND - 0.3.

Appendix on other quality and composition factors: Table 2

18. Consistent with how the values for relative density of other oils are expressed in CXS 210-1999, the Committee agreed that the relative density be expressed to three decimal places and therefore the lower limit was changed from 0.8957 to 0.896.

Appendix on other quality and composition factors: Table 3

19. The Committee agreed to amend the ranges for levels of specific desmethylsterols as follows: cholesterol was amended from 2.2 - 4.7 to 1.7 - 4.7; stigmasterol was amended from 11.5 - 15.5 to 11.2 - 15.5; beta-sitosterol was amended from 57.2 - 60.9 to 57.2 - 67.0; delta-5-avenasterol was amended from ND to ND - 1.9; and "others" was amended from ND - 1.8 to ND - 3.8

Appendix on other quality and composition factors: Table 4

20. The Committee agreed to amend the ranges for levels of specific tocopherols and tocotrienols as follows; alpha-tocopherol was amended from 128 - 152 to 49 - 188; alpha-tocotrienol was amended from 165 - 179 to 74 - 256; gamma-tocotrienol was amended from 475 - 586 to 406 - 887; delta-tocotrienol was amended from 35 - 61 to 33 - 86 and the total (mg/kg) was amended from 678 - 956 to 562 - 1417.

Conclusion

21 Noting that all the outstanding issues had been resolved, the Committee agreed to forward the draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999): Addition of palm oil with a higher content of Oleic Acid (OXG) (Appendix II, Part B-1) to CAC42 for adoption at Step 8;

PROPOSED DRAFT REVISION TO THE *STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS* (CODEX STAN 33-1981): REVISION OF SECTIONS 3, 8 AND APPENDIX (Agenda Item 4)[6]

22 The Committee recalled its decision at CCFO25 to start new work to revise sections 3, 8 and the Appendix of the Codex *Standard for olive oil and olive pomace oils* (CXS 33-1981), and noted that the PWG, which met immediately prior to CCFO26, had prepared a revised proposal and made recommendations for consideration by the plenary.

23 Spain, Chair of the EWG and PWG introduced the item, highlighted the broad outcome of the discussions of PWG as contained in CRD2, and in particular the six recommendations from the PWG related to: i) provisions where agreement was reached; ii) provisions that needed further discussion; iii) new/emerging issues; and iv) terms of reference for the next EWG if the plenary agrees. He requested that CCFO considers the recommendations with a view to providing guidance on how to advance the work.

24 The Committee agreed to the Chairperson's proposal to consider the proposed draft revision to CXS 33-1981 as presented in CRD2, section by section, taking into account the recommendations of the PWG, and made editorial corrections and took decisions as outlined in the following paragraphs.

Discussion

Section 3 Essential composition and quality factors

Extra virgin olive oil and Virgin olive oil

25 The Committee agreed to insert the description "physicochemical and organoleptic" in order to take into account the organoleptic characteristics in definitions for both for "Extra virgin olive oil" and "Virgin olive oil".

Ordinary virgin olive oil

26 The Committee discussed the recommendation of the PWG to delete the definition for Ordinary virgin olive oil from the proposed draft revised Section 3 and consequentially delete this name from the standard; noted the explanation by the PWG Chair that the product covered under this definition was considered defective based on the organoleptic characteristics; and if such a definition was not deleted, consumers would not be protected. He mentioned that in many olive oil producing and non-producing countries, this product was not allowed by national legislation.

---

6 CX/FO 19/26/4 rev.1, CX/FO 19/26/4 Add.1 (Comments of Australia, Brazil, Canada, Ecuador, Egypt, European Union, Iraq, Peru, Syrian Arab Republic, Turkey, IOC and AOCS), CX/FO 19/26/4 Add.2 (Comments of Thailand and USA), CRD2 (Report of PWG on Olive Oils), CRD6 (Comments of India), CRD7 (Comments of Kenya), CRD23 (Comments of Uruguay). CRD24 (Comments of Tunisia)

27 One delegation questioned the rationale for the recommendation to delete the definition. Underscoring the mandate of Codex to ensure harmonisation of international food standards; promotion of fair food trade; and consumer protection, the delegation pointed out that the classification on Ordinary virgin olive oil exist in the 2015 UN International Agreement on Olive Oil and Table Olives, 2015, and its deletion would hamper trade due to potential disharmony that would arise from different standards. This view was supported by some other delegations and one observer.

28 The Committee supported the PWG recommendation and agreed to delete the definition for Ordinary virgin olive oil in the proposed draft revised section 3.

29 The delegation of Morocco supported by Syria and Sudan expressed reservation to the decision, and also drew the attention of the Committee to the written comments of Tunisia and Uruguay on the same issue.

Refined Olive Oil and the associated footnote 1

30 The Committee considered the two proposals for the draft definition that the PWG had proposed, and agreed to the proposed draft definition in which refining methods where broadly clarified and also introduced editorial changes to this definition.

31 The Committee further considered whether to delete footnote 1 that is associated to the definition for refined olive oil.

32 The Chair of the PWG clarified that; inclusion of this footnote was in contradiction with the scope of the document which states that this standard only covers oil for human consumption; and he was not aware of any national legislation which prohibited the direct sale of refined olive oil to consumers. He noted that inclusion of the footnote could lead to restrictions in international trade in refined olive oil. He supported the deletion of the footnote.

33 Delegations in support of retaining the footnote noted their legislations prohibited direct sale of refined olive oil to consumers with requirements that it must first be blended with virgin olive oil to impart some of the organoleptic characteristics lost during the refining process; and that they were not aware of any trade barriers that had arisen due to the footnote. These delegations also highlighted that organoleptic properties for refined olive oil had little resemblance to those of virgin olive oil.

34 Noting the lack of agreement on the issue, the Committee agreed that the superscript 1 and the corresponding footnote should be put in square brackets for further discussion.

Re-designation of Olive Oil

35 The Committee agreed: i) to change the designation of “Olive Oil” to “Olive oil composed of refined olive oil and virgin olive oils” in order to be consistent with the descriptive text of the definition; ii) to express the value of free acidity to one decimal place; and iii) to delete the reference to footnote 2 (i.e.“ the country of retail sale may require a more specific designation”) noting that the proposed new designation was distinct, clear and would not cause confusion; and iv) to make editorial changes to the definition. It was also agreed to keep the words “physicochemical and organoleptic” in square brackets for further discussion.

Re-designation of the name for Olive-pomace

36 The Committee agreed: i) to keep both the current name of the oil “Olive-pomace” and the proposed new name designation “Olive-pomace oil composed of refined olive pomace oil and virgin olive oils” in square brackets for further discussion; ii) to make editorial changes to align the definition with others; and iii) to keep the words “physicochemical and organoleptic” in square brackets for further discussion.

Essential composition and quality factors

37 The Committee discussed the parameters for essential composition and quality for olive oils and olive pomace oils and agreed: i) to the alignment of the names for all oils to those indicated under for the definitions section; and ii) that the limits for the parameters should be expressed to one decimal place where appropriate.

38 The Committee made the following decisions on the remaining provisions under this section:

Organoleptic characteristics (odour and taste) of virgin olive oils

39 The Committee i) agreed to: express the value for “median of the defects” and the “median of the fruity attribute” to one decimal place; ii) consequentially delete the values for Ordinary virgin olive oil together with the associated foot note, due to the decision taken under definition; and iii) keep the two proposed values for the “median of the defect” for virgin olive oil i.e [2.5] or [3.5] in square brackets. The Committee noted the views of some delegations who did not agree on the deletion of the values for Ordinary Virgin Olive Oil.

40 One observer noted that the values for Ordinary virgin olive oil were interrelated with the values for "median of defect" for virgin olive oil (i.e. [2.5] or [3.5]), and that these were still under discussion; and further noted that the proposed change will have a consequence in that every virgin olive oil whose "median of the defect" over the limit under discussion will not comply with the standard. He mentioned that the decision would have consequences in international trade for the olive oil industry. He proposed that instead of deleting the parameter it should be maintained in square brackets. This view was supported by some delegations.

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

41 Concerning the proposed changes to the values for fatty acid composition, some delegations noted the interrelatedness between the fatty acid composition and other parameters; and that a variation in range may have impact on other parameters, they highlighted the need to have the opportunity to study the implications of the changes especially for C16:0 and C18:1 on other parameters; and that there was not enough data to inform the proposed change; and more studies were needed to inform this aspect.

42 The Committee agreed to place the entire table for fatty acid composition in square brackets for further discussion to address the concerns expressed by delegations.

Content of 2-glyceryl monopalmitate (%);

43 The Committee agreed to the proposed draft provisions.

Sterol and triterpene dialcohol composition (Value for total sterol content)

44 The Committee agreed to the proposed draft provisions.

Desmethylsterol composition (% total sterols)

45 The Committee agreed: i) with the clarification that for brassicasterol, the value of ≤ 0.1 applies to olive oils, and therefore replaced the words "for other grades"; ii) to associate a footnote [b] to Δ7-stigmastenol content; and to put the footnote in square brackets for further discussion; and iii) to insert the term "Apparent β-sitosterol" and to transfer of the list of its constituents to a footnote (c).

Erythrodiol and uvaol content (% total sterols)

46 The Committee agreed to the proposed draft provisions.

Waxes content

47 The Committee agreed to: i) the proposed amendment of the levels for virgin olive oils from ≤250 mg/kg to ≤150 mg/kg; and ii) to introduce footnotes (d) and (e) to clarify how the values are derived.

ΔECN_{42} - Maximum difference between the actual and theoretical ECN 42 triglyceride content

48 The Committee agreed to the proposed draft provisions.

Stigmastadienes content

49 The Committee agreed with the changes to the values for virgin oil from 0.15 mg/kg to 0.05 mg/kg.

Peroxide value (milliequivalents of active oxygen/kg oil)

50 The Committee agreed to the proposed draft provisions.

Absorbancy in the ultraviolet region ($K^{\%}_{1cm}$)

51 The Committee agreed: i) to the editorial changes made on the title of the provision to read "Absorbancy in the ultraviolet region ($K^{\%}_{1cm}$)";–ii) that absorbency could be measured either at 270 nm or 268 nm; iii) to consequentially delete the category of ordinary virgin olive oil; and iv) to change the values of K_{270} for refined olive oil from 1.10 to 1.25 and for Olive oil composed of refined olive oil and virgin olive oils from 0.9 to 1.15.

Others

52 The Committee agreed to discuss further the inclusion of a new parameter "Fatty acid ethyl esters – FAEE (mg/kg)" for extra virgin oil, which was put in square brackets.

Section 8 Methods of Analysis and Sampling

53 The Committee agreed to put the section on methods of analysis and sampling in square brackets, as most of these were related to the various provisions that were still under discussion.

Appendix - Other quality and composition factors

54 The Committee considered the Appendix –"other quality and composition factors" and agreed as follows:

- Aligned the names and designations of oils to those in the section on definitions;
- Expressed the values i) for Iron (mg/kg) to one decimal place, consistent with other parameters for trace metals; and ii) for "insoluble impurities" of virgin oils to one decimal place, consistent with the other values of this parameter.
- Deleted the provisions related to "Appearance at 20 °C for 24 hours" and "Saturated fatty acid at the 2-position in the triglyceride";
- Agreed to put the table of Relative Density, Refractive Index and Iodine Value in square brackets since it was interrelated with the table of fatty acid composition as determined by gas chromatography.
- Agreed to put the section on methods of analysis and sampling in square brackets for further discussion.

Conclusion

55 The Committee noted that several provisions required further discussion and or clarification and that the proposed draft revised sections 3, 8 and Appendix of CXS 33-1981 were not ready for advancement in the Step Process and therefore agreed to:

a) Return the proposed draft sections 3, 8 and Appendix to Step 2 for redrafting by an EWG

b) Establish an EWG, convene a physical meeting prior to CCFO27 and if possible convene an inter-session physical working group within a year of CCFO26, chaired by Spain, and co-chaired by Argentina and Canada, working in English only, with following terms of reference:

   i. Review and revise the text in Appendix V (sections 3,8, Appendix) focusing on items in square brackets and issues where delegations expressed strong concerns during the CCFO26 and in written comments submitted to this session, with a view to reaching agreement;

   ii. Collect available data and information on DAG's, PPPs, FAEE's and to study ways of how these could be taken into account in the CXS 33-1981;

   iii. Review and discuss the data provided by Codex members and the IOC, if available, on linolenic acid and propose a possible limit for this provision for inclusion in CXS 33-1981.

   iv. Discuss other issues raised by the members related to section 3 and 8 and appendix: Lampante oil, campesterol content, waxes content for blends of refined oils and virgin oil, and to review the format of table's in the standard;

   v. To prepare a report of the EWG to be submitted to the Codex Secretariat at least three months in advance of CCFO27 for circulation for comments at Step 3 and consideration by CCFO27.

c) The Committee also agreed that to the extent possible, members should refrain from opening up discussion in the EWG on items for which there has been clear agreement;

56 The Committee noted the kind offer by the observer from IOC to organise the inter-session physical working group meeting at the headquarters of IOC including the provision of interpretation and facilities; and their willingness to support any studies deemed necessary

PROPOSED DRAFT REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999): CHANGE IN THE TEMPERATURE FOR THE ANALYSIS OF REFRACTIVE INDEX AND APPARENT DENSITY OF PALM SUPEROLEIN, (Agenda Item 5.1)[7]

57 The Committee recalled that CCFO25 expressed general support for the proposal, by Malaysia, to amend the temperature for the analysis of refractive index (RI) and apparent density for palm superolein from 40°C to 30°C to ensure compliance of the oil with the stated ranges in the *Standard for Named Vegetable Oils* (CXS 210-1999) for the two parameters and that the Committee had agreed to issue a Circular Letter (CL) requesting comments on the proposals presented in CX/FO 17/25/CRD23.

7 CX/FO 17/25/CRD23, CX/FO 19/26/5 (Comments of Algeria, Bahrain, Ecuador, Egypt, European Union, Guatemala, Guinea-Bissau, Iraq, Zambia and AOCS), CX/FO 19/26/5 Add.1 (Comments of Thailand), CRD9 (Revised document by Malaysia), CRD10 (Comments of India and Kenya), CRD22 (Comments of Ghana)

58 Malaysia, informed the Committee that based on written comments submitted in reply to the CL, they had revised document CX/FO 17/25/CRD23 as in CRD9, and proposed to maintain the temperature for the analysis of RI and apparent density for palm superolein at 40 °C, and instead amend the values for RI and apparent density of palm superolein at 40 °C. This approach took into account laboratory practicality, and to be consistent with the temperature specified for these analyses in the AOCS official method for RI. CCFO26 was requested to consider the revised proposal.

59 There was broad support for the revised proposals by the Committee, with delegations noting that it would be preferable to amend the values of RI and apparent density rather than change the temperature of analysis.

Conclusion

60 In view of the general support for maintaining the temperature of analysis at 40°C and revision of the values for RI and apparent density for palm superolein, the Committee agreed to forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999): Amendment to the values of Refractive Index and Apparent Density of Palm Superolein at 40°C to CAC 42 for adoption (Appendix II, Part A-1)

PROPOSED DRAFT REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999): REPLACEMENT OF ACID VALUE WITH FREE FATTY ACIDS FOR VIRGIN PALM OIL AND INCLUSION OF FREE FATTY ACIDS FOR CRUDE PALM KERNEL OIL (Agenda Item 5.2)[8]

61 Malaysia introduced the item and recalled that CCFO25 had requested Malaysia to prepare a proposed draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999) on the way acidity of palm oils was expressed in the Appendix to this standard, and highlighted the key aspects that had been revised including: deleting the provision for virgin palm oil under acid value; inclusion of a new provision on free fatty acids (FFA) as well as the requirements for both virgin palm oil and crude palm kernel oil under this new provision.

62 In addition, Malaysia proposed a consequential amendment to add the AOCS Official Method Ca 5a-40 (Revised 2012) as in CRD11 for the determination of FFA to CXS 210-1999, noting that this method enabled direct analysis of FFA compared to the existing method (AOCS Cd 3d-63).

Discussion

63 The Committee held a general discussion, agreed that the values would include the first decimal point in order to ensure consistency within the standard, and exchanged views on the proposed maximum levels for FFA for both virgin palm oil and crude palm kernel oil.

64 Some delegations sought clarification on how the proposed value for FFA of 5.0 % for virgin palm oils and crude palm kernel oils were justified. In their view, no new values were to be established but rather the current acidity for virgin palm oils (acid value of 10.0 mg KOH/g Oil) was to be expressed differently as FFA content. Therefore, based on the appropriate conversion factor, the value should be 4.6 % for virgin palm oil (as palmitic acid) and 3.6 % for crude palm kernel oils (as lauric acid). Another delegation commented that the proposed change to express the acidity as FFA was not a direct relationship, but had to take into account the molecular weight of the fatty acid in which the acidity of an oil was expressed. Accordingly, the values presented for expressing FFA as lauric acid should be appropriately revised.

65 It was explained that the proposed values of FFA of 5.0 % for both virgin palm oil and crude palm kernel oil were based on the current trade practice for these two types of oils.

66 Following a brief discussion the Committee agreed to:

i. establish the FFA value for virgin palm oil at 5.0% (as palmitic acid);

ii. establish the FFA value for crude palm kernel oil at 4.0% (as lauric acid);

iii. delete virgin palm oils and its corresponding acid value (10.0 mg KOH/g Oil);

iv. clarify that the provision for cold pressed and virgin oils excluded virgin palm oil and crude palm kernel oil by adding as phrase “except crude palm kernel oil and virgin palm oil”; and

v. include method AOCS Ca 5a-40 for the determination of FFA, and in addition to update the methods for acid value to include AOCS Ca 5a-40.

[8] CX/FO 19/26/6, CX/FO 19/26/6 Add.1 (Comments of Brazil, Colombia, Ecuador And Egypt), CX/FO 19/26/6 Add.2 (Comments of Peru), CRD11 (Comments of India, Kenya and Malaysia), CRD22 (Comments of Ghana)

Conclusion

67 The Committee agreed to:

(i) Forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CODEX STAN 210-1999): Replacement of Acid Value with Free Fatty Acid for Virgin Palm Oil and Inclusion of Free Fatty Acid for Crude Palm Kernel Oil (Appendix II, Part C-1) and the method for the determination of FFA to CAC42 for adoption at Step 5/8.

(ii) Forward the method for the determination of FFAs and Acid Value for endorsement by CCMAS (Appendix IV, Part A).

PROPOSED DRAFT REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999): REVISION OF THE ESSENTIAL COMPOSITION OF SUNFLOWERSEED OILS (Agenda Item 5.3)[9]

68 Argentina, Chair of the EWG, introduced the agenda item, recalling that the EWG had held two rounds of consultations; and highlighted the recommendations in relation to Section 2.1 (Product definitions) and Section 3.1 (GLC ranges of fatty acid composition); and requested the Committee to consider the proposed draft revision taking into account the Codex principle that standards must be based on sound science.

69 The Committee agreed to consider the two options proposed under section 2.1 (Product definitions), followed by those options under section 3.1 (GLC ranges of fatty acid composition).

Product definitions

70 The Committee held a discussion on the two options, noted that there were divergent views in support for each of the two options; and finally decided not to proceed with the proposed draft revision to the product definition but to maintain the existing ones. One delegation noted the need for further discussion on the product definitions.

71 The Committee agreed to retain the original product definitions in the standard.

GLC ranges of fatty acid composition

72 The Committee considered the proposed options for amending the ranges of oleic and linoleic acids in sunflowerseed oil and mid-oleic sunflowerseed oil and noted the following views:

a) The delegation of Brazil noted that they supported option 3 (amending the ranges of oleic and linoleic acids in sunflowerseed oil and mid-oleic sunflowerseed oil) which was based on the data presented during the eWG and in compliance with Codex Principles. However, in the spirit of compromise and considering that option 1 would represent an improvement compared to current situation, Brazil could accept option 1.

b) Many delegations supported option 1.

c) Other delegations noted that Option 2 (amending the ranges of oleic and linoleic acids in mid-oleic sunflowerseed oil) would have a lesser impact on the existing market and generally reflected what was currently in the international trade, however they could support option1, for the sake of making progress. One delegation noted that they could only support option 2.

73 The Committee noted that there was a general support for Option 1 (amending the ranges of oleic and linoleic acids in sunflowerseed oil).

74 One delegation also expressed concerns to having gaps in Fatty Acid Composition describing various types of sunflowerseed oil smaller than the measurement uncertainty of the method. These concerns were based on possible problems with type identification.

Physical and chemical parameters

75 The Committee noted the clarification from the delegation of Argentina on the statement “related indexes (refractive index, saponification value, iodine value and relative density) would be determined stoichiometrically once the new limits were defined”, and that these values would be established based on laboratory analysis and not by calculation. Based on this the Committee agreed to establish an EWG to work further on the revision of these parameters.

[9]CX/FO 19/26/7, CX/FO 19/26/7 Add.1 (Comments of Brazil, Canada, Chile, Ecuador, Egypt, Ghana, Iran, Iraq, Peru, Russian Federation, Turkey, USA and Fediol), CX/FO 19/26/7 Add.2 (Comments of Thailand), CRD12 (Comments of India, Kenya and Turkey), CRD22 (Comments of Ghana)

Conclusion

76 The Committee agreed on the following:

a. To retain the original product definitions in the standard;

b. To endorse the proposed ranges of oleic and linoleic acid for sunflowerseed oil (in Option 1) as follows;

Oleic acid C18:1	14.0 - 43.0
Linoleic acid C18:2	45.4 - 74.0

c. To establish an EWG, Chaired by Argentina and Co-chaired by Brazil and working in English only with the following terms of reference:

- to collect, analyse and review data for refractive index, saponification value, iodine values and relative density and propose appropriate values for these parameters; and
- to prepare a report of the EWG to be submitted to the Codex Secretariat at least 3 months in advance of CCFO27 for circulation for comments at Step 3.

d. To request the Codex Secretariat to issue a CL calling for data and information on the parameters mentioned above; and

e. That the draft revision under section 3.1 be held at step 4 until the revision of the values of parameters is completed.

77 The Russian Federation expressed its reservation to the decision to take option 1 under section 3.1, noting that in their view there were no data to support this option. The Delegation of Russia indicated that Option 1 did not reflect the situation with existing varieties of sunflowerseed oils and this may lead to discriminatory conditions for trade; the consumers would not be protected; and that the proposed changes are not allowed by national legislation of the main sunflowerseed oil producing countries.

PROPOSED DRAFT REVISION TO THE STANDARD FOR NAMED VEGETABLE OILS (CODEX STAN 210-1999): INCLUSION OF WALNUT OIL, ALMOND OIL, HAZELNUT OIL, PISTACHIO OIL, FLAXSEED OIL AND AVOCADO OIL (Agenda Item 5.4)[10]

78 Iran, Chair of the EWG and the In-Session Working Group (In-Session WG), introduced the agenda item and summarised the recommendations as contained in CRD3.

79 The Committee agreed to the Chairperson's proposal to consider the six oils in alphabetical order and taking a vertical approach, discussing one oil at a time, and handling all section of that particular oil as laid in the Codex *Standard for Named Vegetable Oils* (CXS 210-1999). In this manner, based on progress made on a particular oil, the Committee could consider advancing it (oil) to the next step.

80 The Committee considered the recommendations of the In-Session WG contained in CRD3 and made the following decisions:

Discussion

Almond oil

81 The Committee considered the proposed draft provisions for almond oil, made amendments to the provisions for the levels of desmethylsterols, agreed to all the proposed draft provisions for almond oil and endorsed the recommendation of the In-session WG to send the provisions for this oil to the Commission for adoption.

Avocado oil

82 The Committee noted the In-session WG had recommended :

a) A revised definition for avocado oil and to place it in square brackets pending a review of the data and clarification on the origin of the oil (whether derived from a whole fruit or from mesocarp);

b) More time be allowed to better define the characteristics of avocado oil and that a CL calling for submission of data on the characteristics and origin of avocado oil (part of the fruit from which the oil was derived) be issued;

c) Establish a new EWG to review all available data and prepare a revised proposal.

[10] CX/FO 19/26/8, CX/FO 19/26/8 Add.1 (Comments of Brazil, Canada, Cuba, Ecuador, Egypt, Iraq, Mexico, USA, Fediol and IUFOST), CX/FO 19/26/8 Add.2 (Comments of European Union), CRD3 (Report of in-session WG), CRD13 (Comments of India, Kenya and Mexico), CRD21 (Comments of USA)

83 The Committee endorsed the recommendations for avocado oil of the In-session WG.

Flaxseed (linseed) oil

84 The Committee considered the proposed draft provisions for flaxseed (linseed) oil and endorsed the recommendation of the In-session WG to send the provisions for this oil to the Commission for adoption.

Hazelnut oil

85 The Committee considered the proposed draft provisions for hazelnut oil and endorsed the recommendation of the In-session WG to send the provisions for this oil to the Commission for adoption.

Pistachio oil

86 The Committee considered the proposed draft provisions for pistachio oil and endorsed the recommendation of the In-session WG to send the provisions for this oil to the Commission for adoption.

Walnut oil

87 The Committee considered the proposed draft provisions for walnut oil and endorsed the recommendation of the In-session WG to send the provisions for this oil to the Commission for adoption.

Conclusion

88 The Committee agreed to:

a) Forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999): Inclusion of Almond oil, Flaxseed (linseed) oil; Hazelnut oil; Pistachio oil; and Walnut oil (Appendix II, Part C-2) to CAC42 for adoption at Step 5/8.

b) Return the proposed draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999): Inclusion of Avocado oil for further consideration at Step 2/3, taking into account the comments made at and/or submitted to CCFO 26,

c) Establish an EWG, chaired by Mexico and Co-chaired by the USA, working in English only, to:

   i. Review all available data on the characteristics and origins of avocado oil with a view to revising the provisions for avocado oil; and

   ii. Prepare a report of the EWG to be submitted to the Codex Secretariat, at least 3 months in advance of CCFO27 for circulation for comments at Step 3.

d) To request the Codex Secretariat to issue a CL calling for submission of data on the characteristics and origin of avocado oil (part of the fruit from which the oil was derived).

REVIEW OF THE LIST OF ACCEPTABLE PREVIOUS CARGOES (APPENDIX II TO RCP 36-1987) (Agenda Item 6)[11]

89 The Committee recalled that at its previous session, it was agreed to issue a CL to invite interested members and observers to propose further amendments to Appendix 2: List of Acceptable Previous Cargoes of CAC/RCP 36-1987 and to establish an EWG to consider the submitted proposals.

90 Malaysia, Chair of the EWG informed the Committee that ten members had replied to the CL but there was only one proposed amendment – to remove calcium lignosulphonate liquid from the list. However, as CCFO24 had already considered the substance and included it in the list of substances for evaluation by FAO and WHO, no further action could be taken at this time. Therefore, the EWG did not proceed.

Discussion

91 The Committee considered removal of this as a standing item from the CCFO agenda, noting that proposals for amendments could still be submitted in the future, but given the need for clarity and transparency on the submission and review process, it was reaffirmed that the current mechanism optimally provided this, and should be retained.

92 The Committee noted that the request for scientific advice on 23 substances was still pending and reiterated the importance of receiving the scientific advice as soon as possible. The Codex Secretariat recalled the discussions of the CAC40, which noted the long list of pending requests for scientific advice; the need to prioritize requests; and encouraged countries to provide support to FAO and WHO to address requests. The Codex Secretariat further confirmed that resources to provide this scientific advice to CCFO were still not available and encouraged Delegations to consider how they could support this work.

11 CX/FO 19/26/9; CRD14 (Comments of the European Union)

Conclusion

93 The Committee agreed to:

(i) Retain this as a standing item on the agenda of CCFO;

(ii) Request the Codex Secretariat to issue a CL inviting interested members and observers to propose further amendments to Appendix 2: List of Acceptable Previous Cargoes of CAC/RCP 36-1987;

(iii) Establish an EWG, led by Malaysia and working in English only with the following Terms of Reference:

- Consider proposals on new substances to be added to the list, provided that such proposals are supported by adequate and relevant information.
- Prioritise substances to be submitted to FAO and WHO for evaluation.
- Consider proposals to remove substances from the list in light of new data.
- Prepare a report for consideration by CCFO27

(iv) convene an in-session Working Group, if needed, chaired by Malaysia, to consider the report of the EWG and report back to the Committee.

94 The Committee further agreed to reiterate to FAO/WHO that the evaluation of the 23 substances was now a matter of urgency for CCFO and encouraged FAO/WHO to evaluate the 23 substances as soon as possible. The Committee further noted the report of the CAC40 and the appeal of the Codex Secretariat to Delegates to provide financial support to the work on scientific advice to CCFO.

ALIGNMENT OF FOOD ADDITIVES PROVISIONS IN STANDARDS FOR FATS AND OILS (EXCEPTS FISH OILS) AND TECHNOLOGICAL JUSTIFICATION FOR USE OF EMULSIFIERS IN FC 02.1.2 OF THE GSFA (Agenda Item 7)[12]

95 The Chair of the in-session WG on Alignment (EU) introduced its report (CRD4), including recommendations and explained that the in-session WG on Alignment had: (i) prepared proposals for the revocation and update of food additive provisions in fats and oils standards; (ii) prepared proposals for alignment of food additive provisions in fats and oils standards with the GSFA ; and (iii) provided the technological justification for the use of emulsifiers in FC 02.1.2.

96 In terms of alignment of food additive provisions in fats and oils standards with GSFA, the Chair explained that the in-session WG followed the *Guidance to Commodity Committees on the Alignment of Food Additive Provisions* provided by CCFA.

Discussion

97 The Committee considered the in-session WG recommendations, made comments and took the following decisions:

Revocation of the several Food Additive Provisions in Fats and Oils standards

98 The Committee noted the recomendation of the In-session WG, to revoke the food additives i.e. Monosodium tartrate (INS 335(i)), Monopotassium tartrate (INS 336(i)), Dipotassium tartrate (INS 336(ii)) and Sodium Sorbate (INS 201) from the *Codex Standard for Fat Spreads and Blended Spreads* (CXS 256-2007).

99 Some delegations expressed concern on the proposed revocation of Sodium Sorbate (INS 201) noting that it was used as a preservative in a number of products in some countries.

100 It was explained that Sodium sorbate (INS 201) was evaluated by JECFA in 1986 but no specification was assigned, and a substance without a JECFA specification does not meet the criteria for entry into the GSFA. It was also pointed out that the CCFA requested members to submit data and information to support the establishment of a specification for this substance by JECFA, but no information was forthcoming. As a consequence, CCFA decided to revoke it from the GSFA and recommended its revocation from other standards. It was further noted that Sorbic acid (INS 200), Potassium sorbate (INS 202) and Calcium sorbate (INS 203) continue to be authorised as preservatives as in the Codex *Standard for Fat Spreads and Blended Spreads* (CXS 256-2007) which may be used as alternatives to Sodium sorbate (INS 201)

101 The Committee agreed to revoke the provisions for the aforementioned food additives provisions in the relevant fats and oils standards (Appendix III, Part B).

[12] CX/FO 19/26/10, CRD4 (Report of in-session WG), CRD15 (Comments of Canada, India, Japan and Thailand)

Updating certain Food Additive Provisions in Fats and Oils standards

102 The Committee supported the recommendations of the In-session WG to include the four food additives provisions (i.e. Lecithin (INS 322(i); Tricalcium citrate (INS 333(iii); Tripotassium citrate (INS 332(ii); Mono- and di-glycerides of fatty acids (INS 471)) to the food additives provisions of the relevant fats and oils standards. (Appendix III, Part A).

103 The Committee noted that:

a) There was an error in the request to CCFO concerning the INS number of Tricalcium citrate (INS 333 (iii)) and not INS 333 (ii) (Ref: REP15/FA para 72);

b) The food additives - Lecithin (INS 322(i); Tricalcium citrate (INS 333(iii); Tripotassium citrate (INS 332(ii); have no technological purpose "antioxidant synergist" associated to them under the *Class Names and the International Numbering System for Food Additives* (CXG 36-1989).

104 The Committee agreed to include mono- and di-glycerides of fatty acids (INS 471) in the *Standard for Named Animal Fats* (CXS 211-1999).

105 The Committee agreed to inform CCFA of the decision to update the respective food additives provisions in the relevant standards, noting that this process will be completed by the Codex Secretariat.

Alignment of Food Additive Provisions in Fats and Oils standards (except fish oils) with Food Additive Provisions in GSFA

106 The Committee agreed to the recommendations of the In-session WG:

a) To endorse the proposal for the alignment of food additive provisions in standards CXS 210-1999, CXS 211-1999, CXS 19-1981; CXS 33-1981 and CXS 256-2007 with GSFA. (Appendix III, Part C).

b) To request CCFA to take into account the proposals during the alignment process of the GSFA;

107 The Committee also reminded members and observers that they would have the opportunity for further comments when CCFA considers the alignment of the food additive provisions in the fats and oils standards with the GSFA.

Technological justification for the use of emulsifiers in FC 02.1.2

108 The Committee noted that: Polyglycerol esters of fatty acids (INS 475) - ML of 600 mg/kg; Sorbitan esters of fatty acids (INS 491-495) - ML of 750 mg/Kg; and Stearoyl lactylates (INS 481(i) and INS 482(i)) - ML of 300 mg/kg; were used as emulsifiers for anti-crystallization purposes in cooking oil, when stored under an air conditioned environment, in countries with high ambient temperatures.

109 Some delegations proposed to change the ML for Polyglycerol esters of fatty acids (INS 475) from 600 mg/kg, to 10,000 mg/kg clarifying that solid oils such as palm oil could be partially melted and separated into solid and liquid parts under higher ambient temperatures, and the use of this emulsifier can help to maintain the solid state of the oil. It was also proposed to include sucrose esters of fatty acids (INS 473) - ML of 2,000 mg/kg, which is used as an emulsifier in cooking oils for anti-spattering purposes.

110 Other delegations, noted that in the view of the late availability of the proposed change in the ML for Polyglycerol esters of fatty acids (INS 475), more time was needed to examine the proposal. The Committee noted that the expertise in the safety evaluation of emulsifiers lies with the CCFA, while CCFO was responsible for identifying the technological needs of the food additives.

111 The Committee agreed to the proposed use of Polyglycerol esters of fatty acids (INS 475) with an ML of 10,000 mg/kg as emulsifiers.

112 The European Union stated that it does not recognize a technological need for the use of emulsifiers in food category 02.1.2. The European Union further stated that should such a need exist, emulsifiers with ADI not specified should be preferred. With regard to the specific proposals for maximum use levels, they require further careful consideration to ensure that the quantity of additive added to the food be limited to the lowest possible level necessary to accomplish its desired effect. This statement was supported by the delegation of Switzerland.

Conclusion

113 The Committee agreed to:

a. Forward to CAC42:

(i) The proposed food additives provisions for inclusion to the *Standard for Edible Fats and Oils Not covered by individual Standards* (CXS 19-1981), *Standard for Named Vegetable Oil*s (CXS 210-

1999), and *Standard for Named Animals Fat*s (CXS 211-1999), (Appendix III, Part A) for adoption;

(ii) The specific food additive provisions in the *Standard for Fat Spreads and Blended Spreads* (CXS 256-2007) for revocation (Appendix III, Part B).

b. Forward to CCFA:

(i) the proposal for the alignment of food additive provisions in relevant fats and oils Standards with GFSA for consideration (Appendix III, Part C);

(ii) the technological justification for use of emulsifiers in FC 02.1.2 of the GSFA (Appendix III, Part D);

(iii) a request to consider updating CXG 36-1989 to include the technological function "anti-oxidant synergist" to Lecithin (INS 332 (i)); tricalcium citrate (INS 333(iii)); and tripotassium citrate (INS 332(ii)); and

(iv) a request to clarify the error in the INS for Tricalcium citrate (Ref: REP15/FA para 72).

114 It was also noted that the Codex Secretariat will replace the list of food additives with standardised text in CCFO Standards, as soon as CCFA has finalised the alignment of food additives.

REPORT ON THE OUTCOME OF MONITORING THE CONFORMITY OF NAMED FISH OILS WITH THE REQUIREMENTS (ESPECIALLY THE FATTY ACID PROFILE) OF FISH OIL STANDARD AND ITS EFFECT ON TRADE (REPLIES TO CL 2017/74-FO)) (Agenda Item 8)[13]

115 Switzerland introduced the report on the outcome of the monitoring; noted that six Codex Members had submitted comments in response to the CL, which, although a small accounted for a significant amount of the production and processing of fish oils; and indicated that no significant trade problems had been reported in relation to the implementation of the new standard although one member highlighted the monitoring period was too short. With reference to the recommendations in para 16(c) of the report, Switzerland noted that an extension of the monitoring work is not required, instead members could be encouraged to undertake this work and inform the Committee if and when any problems were identified.

Discussion

116 CCFO agreed to discuss the four conclusions/recommendations as follows:

a. The monitoring of possible effects of the newly adopted standards on trade did not identify any difficulties associated with the implementation of the standard

117 The Committee was in agreement with this conclusion.

b. Identification of named fish oils by fatty acid profiles was not considered to be a problem by any of the comments given in response to the Circular Letter

118 The Committee was in agreement with this conclusion.

c. The time period for which comments have been provided is short (one year); a considerably longer time period (e.g. five or ten years) may be needed to improve significantly the quality and quantity of the data base to assess the effects of the standard.

119 The Delegation of Chile reiterated their comments in response to the CL that the monitoring period was too short to identify any problems related to the standard and proposed a longer monitoring period with a report to CCFO28. They further noted that the fatty acid profile alone was not adequate for confirmation of authenticity and needs to be accompanied with product tracing/traceability data. In this regard, they recalled concerns expressed at CCFO25 that the *Format for Codex Commodity Standards* in the Procedural Manual did not allow for issues related to traceability and certification to be addressed in the commodity standard. Chile supported by another Delegation proposed that CCFO request CCFICS to develop a systematic and comprehensive protocol to eradicate fraud from foods.

120 Other delegations noted that based on the data received, there were no particular problems with the implementation of the standard, and therefore no further monitoring was required.

121 The Chair recalled the on-going work in CCFICS, noting that this matter has been adequately addressed by CCFICS23 and CCFICS24 as well as within this committee. It was suggested in CCFICS23 that while commodity committees could contribute to determining the authenticity/integrity of food products through defining quality requirements, CCFICS may be better positioned to provide general higher-level guidance. It

[13] CX/FO 19/26/11, CRD16 (Comments of Norway, European Union and GOED), CRD20 (Comments of Chile)

would be difficult for any single committee to address such diverse concerns through a single document, and measures should not be limited to fraud detection but also seek to achieve mitigation.

122 The Chair also recalled that CCFICS24 had established an EWG to further consider the role of that Committee with respect to tackling food fraud within the Codex mandate, and to carry out a comprehensive analysis of existing relevant Codex texts both within and outside of CCFICS to avoid overlapping or intrusion on the mandate of the Codex general subject or commodity Committees.

123 The Codex Secretariat informed the Committee that a kick-off message to launch the EWG on Food Fraud had been issued on 20 February 2019 with a deadline for registration with the EWG of 22 March 2019; that the EWG provides a forum for discussion of all food fraud and authenticity related matters; and, that the Committee may wish to encourage members to participate.

d. The Spanish name for "anchovy oil" should be changed from "Aceite de anchoa" to "Aceite de anchoveta".

124 With respect to the request to change the term "aceite de anchoa" to "aceite de anchoveta", Switzerland (speaking as former chair of the EWGs and PWGs) explained the history of the current entry for "anchovy oil":

a. CCFO23 had agreed to collect trade and analytical data in order to identify fish oils that should be included as named oils in the standard.

b. For anchovy, data was received for oils from three different species (*Engraulis ringens*, *E. encrasicolus*, *E. japonicus*) and from species not further identified (*Engraulis* sp.). The EWG identified "as taxon from which the oil was extracted" (Section 2.1. of *Standard for Fish Oils* (CXS 329-2017)) the genus *Engraulis* and proposed the definition "Anchovy oil is derived from species of the genus *Engraulis* (Engraulidae)".

c. This definition was accepted by the Committee and forwarded at Step 5 (REP15/FO Appendix III) to the Commission. The words "from *Engraulis ringens* and other" were inserted at CCFO25, a change that reflected the relative importance of this species compared to others. This insertion, however, did not change the previous decision, that the taxon from which the oil was extracted was the genus *Engraulis*.

d. The appropriate Spanish name for the taxon *Engraulis* is - according to references including FAO's AGROVOC - anchoa, whereas anchoveta is the common Spanish name for the species *E. ringens* also known as Peruvian anchoveta.

125 The Committee agreed with the explanation of Switzerland that based on the above considerations it was not appropriate to modify the current Spanish translation for anchovy oil (Section 2.1.1) in the Standard for Fish Oils.

Conclusion

126 The Committee agreed:

(i) That no further monitoring on the implementation of the newly adopted standard for fish oils was needed and that data received indicated that the use of the fatty acid profiles for named fish oils did not present a problem for identification;

(ii) That if members identify any problems in the future with the implementation of the standard they can submit a proposal for review of the standard;

(iii) To refer to CCFICS the request expressed by Chile related to food fraud in oils in general and related to concerns about fish oil in particular, noting that the current format of commodity standards does not allow inclusion of traceability;

(iv) To encourage Chile and concerned members to participate in the recently launched EWG on food fraud established by CCFICS and to bring this issue to the attention of the chairs of the EWG; and

(v) To retain the current Spanish translation for anchovy oil.

DISCUSSION PAPER ON BETTER MANAGEMENT OF THE WORK OF THE CODEX COMMITTEE ON FATS AND OILS (Agenda Item 9)[14]

127 The CCFO Secretariat (Malaysia) introduced the discussion paper and explained the stepwise approach taken in its development, noting that a situation analysis of the work of the committee was undertaken, followed by the identification of areas for improvement, and then development of recommendations on better work management. The CCFO Secretariat further noted that in addition to new standards, CCFO receives

[14] CX/FO 19/26/12, CRD 17 (Comments of European Union)

many proposals for amendments to existing standards. In the case of amendments it was proposed to use a simplified project document. Reflecting on the increasing workload of the Committee over the last five sessions, the need to improve the timeliness of submissions for new work and the time required to consider proposals for new work in the Committee, several improvements were recommended including the use of a CL to solicit proposals in a timely manner, the establishment of an in-session working group to review proposals for new work and including a standing agenda item on new work proposals. With reference to para 26 of CX/FO 19/26/12 the Committee considered each of the four recommendations presented by the CCFO Secretariat.

Discussion

Recommendation 1 – simplified project document

128 There was no agreement on the use of a simplified project document for the revision of existing parameters and inclusion of new parameters in an existing standard. The Committee also noted that the existence of two different models for the project document may create confusion. Thus, while there was recognition that not all requirements of the project document need to be completed for every proposal, it was suggested that relevant requirements could be considered on a case-by-case basis by the member preparing the project document. It would then be up to the in-session working group and the Committee to determine if the relevant requirements were identified and fulfilled.

Recommendation 2 – Circular Letter

129 Delegations were in agreement with the proposal to issue a CL calling for proposals for all new work including amendments to existing standards. It was also proposed to; include a deadline in the CL to promote timeliness of submissions and allow time for members and observers to review and submit comments; and, in order to improve efficiency, as per the practice in other Committees (e.g. CCFA), submissions received after the deadline would not be considered by that session but by the following session of the Committee. It was clarified that submissions in response to the CL should include both a discussion paper and a proposed project document.

Recommendation 3 – In-session working group

130 Delegations were supportive of the recommendation to establish an in-session working group to consider the proposals for new work and agreed that the Chairperson of the working group be appointed at each session.

Recommendation 4 – Standing Agenda Item on New Work Proposals

131 Delegations were supportive of this recommendation.

Conclusion

132 In order to better manage its work the Committee agreed to:

(i) Continue to use the existing project document for submission of proposals for new work and or amendments to existing fats and oils standards. Identification of redundant criteria should be done on a case-by-case basis by a member preparing the project document. It would then be for the in-session working group and the Committee to determine if the relevant criteria were identified and fulfilled.

(ii) Request the Codex Secretariat to issue a CL to call for proposals for new work including amendments to existing standards well in advance of each session of CCFO and with a specific deadline within which proposals should be submitted. Submissions in response to the CL should include both a discussion paper and proposed project document. Submissions received after the deadline would not be considered by that session but by the following session of the Committee.

(iii) Establish an in-session working group at each session of the CCFO with the following Terms of Reference:

a. to screen all new work proposals and related project documents for completeness against the criteria in the Codex Procedural Manual regarding proposals for new work and the decision of CCFO16, taking into account written comments received from members in relation to the proposals;

b. to assess whether the information provided fulfils the requirements for the new work proposed and make recommendations to the plenary; and

c. to prepare a report to be presented to the plenary to enable CCFO to make informed decisions on the work proposals.

(iv) Appoint a Chairperson of the in-session working group at each session of the committee.

(v) To have a standing agenda item in every session of the CCFO to consider new work proposals.

DISCUSSION PAPER ON THE INCLUSION OF UNREFINED EDIBLE TALLOW IN THE *STANDARD FOR NAMED ANIMAL FATS* (CODEX STAN 211-1999) (Agenda Item 10)[15]

133 The Committee noted that Australia no longer wished to pursue the issues of the inclusion of Unrefined Edible Tallow in the *Standard for Named Animal Fats* (CXS 211-1999).

134 The Committee agreed to remove the item from its Agenda.

DISCUSSION PAPER ON THE APPLICABILITY OF THE FATTY ACID COMPOSITION OF OTHER OILS LISTED IN TABLE 1 IN RELATION TO THEIR CORRESPONDING CRUDE FORMIN THE STANDARD FOR NAMED VEGETABLLE OILS (CODEX STAN 210-1999) (Agenda Item 11)[16]

135 The United States of America, Chair of the EWG, introduced the Agenda Item, and outlined the process undertaken by the EWG, noting that the EWG had worked via the Codex online platform, and conducted three rounds of consultations before agreeing the proposed draft footnote to Table 1.

136 The Committee discussed the issue and agreed to a proposal from the European Union (CRD18):

a) To modify the proposed footnote in order to ensure the continued integrity of the standard and that the scope remains intact and does not include crude oils.

b) That the proposed footnote will appear as footnote 2 (two), while the current footnote 2 (fractioned product from palm oil) would become footnote 3 (three).

c) To consequentially delete the specific note on crude rice bran oil that was introduced at CCFO25 in Section 2 of the Appendix, noting that the proposed new footnote was broad and would cover all crude oils.

Conclusion

137 The Committee agreed to:

(i) Add the new footnote to Table 1 in the *Standard for Named Vegetable Oils* (CXS 210-1999); and forward this to CAC 42 for adoption (Appendix II, part A-2);

(ii) Consequently delete the “Note” on the applicability of the fatty acid composition of rice bran oil to the crude form of the oil from Section 2 Composition and Quality Characteristics of the Appendix to CXS 210-1999 (Appendix II part A-2); and

(iii) Request the Codex Secretariat to revise the numbering of the footnotes as a consequential change to incorporation of the new footnote following adoption by CAC 42.

DISCUSSION PAPER ON THE INCLUSION OF FREE FATTY ACIDS AS QUALITY CHARACTERISTIC CRITERIA FOR REFINED RICE BRAN OIL IN THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999) (Agenda Item 12)[17]

138 Thailand introduced the discussion paper, and informed the Committee that the method of analysis of FFA (AOCS Ca 5a-40) had already been discussed and agreed under agenda item 5.2.

139 The Committee noted the clarification on the relationship between the acidity, acid value and, FFA and that the proposed FFA value of 0.3% (as oleic acid) for refined rice bran oil was equivalent to the acid value of refined rice bran oil (0.6mgKOH/g Oil). The Committee thus noted that the proposed amendment was simply another expression of the acidity in response to international trade needs.

Conclusion

140 The Committee agreed to forward the proposed draft revision to the *Standard for Named Vegetable Oils* (CXS 210-1999): Inclusion of the free fatty acids as quality characteristics criteria for refined rice bran oil (Appendix II, part A-3) to CAC42 for adoption.

OTHER BUSINESS (Agenda Item 13)

Update of methods in CXS 33-1999

141 The Delegation of the United States of America informed the Committee that methods of analysis for the determination of five of the composition and quality factors in the Standard for Olive oils and Olive Pomace Oils (CXS-33-1981) were obsolete and withdrawn by IOC and needed to be replaced with valid methods.

---

15 CX/FO 19/26/13
16 CX/FO 19/26/14, CRD18 (Comments of India and European Union)
17 CX/FO 19/26/15, CRD19 (Comments of India and European Union)

The delegation presented a list of new methods to replace the obsolete and withdrawn methods and proposed that these replacement methods be forwarded for endorsement by CCMAS 40 (scheduled in May 2019), and subsequent updating of the corresponding methods in CXS 234.

142 The Committee noted the following views expressed by some delegations:

- There was a need for more time to examine the new methods before forwarding to CCMAS;
- The update of methods could be considered as part of the revision of CXS 33-1981;
- The proposed new methods were replacement methods for those that had been withdrawn.

143 One observer clarified that since these methods of analysis had been withdrawn, the relevant parameters currently could not be analysed based on the standard. While it was noted that alternatives for some of the methods could be found in CXS 234, for others there were currently no alternatives.

144 The Codex Secretariat noted that the withdrawal of the methods of analysis meant that CXS 33-1981 was currently incomplete, and although the standard was under revision CXS 33-1981 remains a valid standard and clarified that when urgent issues arise they could be addressed at any time.

Conclusion

145 The Committee noted the urgency of this matter, and agreed:

- to request the Codex Secretariat to issue the CL requesting comments on the new methods (Appendix IV- part B) with a deadline of 6 weeks within the date of issue;
- to forward the methods to CCMAS for endorsement provided there were no concerns expressed in response to the CL; and should there be concerns expressed, the methods would then be forwarded to the EWG on Olive Oils for further consideration; and
- Once the methods are endorsed by CCMAS, CXS 33-1981 will be updated accordingly.

DATE AND PLACE OF THE NEXT SESSION (Agenda Item 14)

146 The Committee was informed that the 27th Session of CCFO is scheduled to be held in Malaysia tentatively from 22 to 26 February 2021, the final arrangements being subject to confirmation by the host government in consultation with the Codex Secretariat.

LIST OF PARTICIPANTS
LISTE DES PARTICIPANTS
LISTA DE PARTICIPANTES

CHAIR - PRÉSIDENTE – PRESIDENTA

Mrs. Noraini Dato' Mohd Othman
Senior Director
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Jalan Persiaran Perdana
Presint 3, 62675, Putrajaya
Malaysia
Tel: +603-88850797
Email: noraini_othman@moh.gov.my

MEMBERS NATIONS AND MEMBER ORGANIZATIONS

ÉTATS MEMBRES ET ORGANISATIONS MEMBRES

ESTADOS MIEMBROS Y ORGANIZACIONES MIEMBROS

ANGOLA

Dr Fátima Barbosa
Coordenadora do Subcomite
Ministério da Defesa - Direcção Agro-pecuária
Rua Comandante Gika, Largo António Jacinto, Ministério da Agricultura e Florestas, 7º Andar, Codex Angola.
Luanda
Angola
Tel: 00244925264448/00244912249418
Email: fatima-barbosa6@hotmail.com

ARGENTINA - ARGENTINE

Ms María Alejandra Larre
Asesora del Punto Focal del Codex Alimentarius de Argentina
Ciudad Autónoma de Buenos Aires
Secretaría de Gobierno de Agroindustria
Paseo Colón 982 - 2° piso, oficina 203
Buenos Aires
Argentina
Email: mlarre@magyp.gob.ar

AUSTRALIA - AUSTRALIE

Mr Enrico Perotti
Agriculture Counsellor
Australia
6 Jalan Yap Kwan Seng
Kuala Lumpur
Malaysia
Tel: +603 2146 5540
Email: enrico.perotti@dfat.gov.au

Dr Claudia Guillaume
General Manager
Modern Olives Laboratory
151 Broderick Rd. VIC
Australia
Tel: +61 427 898 268
Email: c.guillaume@modernolives.com.au

Mr Paul Miller
Director
Australian Olive Association LTD
P.O Box 6661, Baulkham Hills, NSW, 2153
Australia
Tel: +61412854974
Email: hortempm@bigpond.com

BRAZIL - BRÉSIL - BRASIL

Mrs Ana Paula De Rezende Peretti Giometti
Health Regulation Expert
Brazilian Health Regulatory Agency – Anvisa
SIA, Trecho 5, Área Especial 57
Brasilia / DF
Brazil
Tel: +55 61 34625333
Email: ana.peretti@anvisa.gov.br

Mrs Antonia Maria de Aquino
Health Regulation Expert
Brazilian Health Regulatory Agency – Anvisa
SIA, Trecho 5, Área Especial 57
Brasília / DF
Brazil
Tel: 55 61 34625330
Email: antonia.maria@anvisa.gov.br

CANADA - CANADÁ

Mrs Grace Ramos
Senior Program Officer
Consumer Protection and Market Fairness Division
Canadian Food Inspection Agency
1400 Merivale Road
Ottawa
Canada
Tel: 613 773-5464
Email: grace.ramos2@canada.ca

Mrs Mariola Rabski
Chemist
Canadian Food Inspection Agency
960 Carling Ave., Bldg. #22
Ottawa
Canada
Tel: 613-759-1291
Email: mariola.rabski@canada.ca

CHILE - CHILI

Mrs Ana Belén Bueno
Trade Commisioner
Embassy of Chile in Malaysia
Wisma Eagle Realty, 8th Floor West Block, 142-A Jalan Ampang, 50450
Kuala Lumpur
Malaysia
Tel: 603-21616203
Email: abueno@prochile.gob.cl

Mr Rodrigo Zamora Gomez
Encargado de Sustentabilidad Área Técnica y Estudios
Sociedad Nacional de Pesca, SONAPESCA
A. Barros Errázuriz 1954, oficina 206. Providencia
Santiago
Chile
Tel: +56 2 25960690
Email: rzamora@sonapesca.cl

CHINA - CHINE

Mr Xiao Chen
Research Assistant
China National Center for Food Safety Risk Assessment
Room 201,Building 2,No.37 Guangqu Road,Chaoyang District,Beijing
Beijing
China
Tel: 15210160428
Email: chenxiao@cfsa.net.cn

Dr Xiaoqin Wang
Associate Professor
Huaqiao University
College of Chemical engineering at Huaqiao University, Jimei district, Xiamen, China, 361021
Xiamen
China
Tel: 0592-6166087
Email: xiaoqin77@foxmail.com

COLOMBIA - COLOMBIE

Dr Roberto Herrera Lara
Gerente General
Del Llano Alto Oleico S.A.S.
Cra 9 # 77 - 67 of 701
Bogotá
Colombia
Tel: 57 (1) 3204981909
Email: gerencia@delllanoaltooleico.com

Dr Carlos Andres Madrigal
Gerente Indupalma
Indupalma
Calle 67#7-94 8th Floor
Bogota
Colombia
Tel: 57 (1) 3470010 - 3125889226
Email: cmadrigal@indupalma.com

Ms Alexandra Mondragón-serna
Responsable Proyecto especial de salud y nutrición humana
Cenipalma
Calle 20A # 43A-50
Bogotá
Colombia
Tel: 57 (1) 3138600 - 3212157674
Email: amondragon@cenipalma.org

Dr Raúl Esteban Sánchez Niño
Ministro Consejero – Embajada de Colombia en Malasia
Ministerio de Relaciones Exteriores
Business Suite 19A-27-3A, Level 27, Edificio UOA Centre 19, Jalan Pinang, Kuala Lumpur, Malasia - Código Postal 50450
Colombia
Tel: +60 3 21645488
Email: raul.sanchez@cancilleria.gov.co

ECUADOR - ÉQUATEUR

Mr Pablo Alberto Bonifaz Arboleda
Encargado de Negocios a.i.
Embajada del Ecuador en Malasia
10th Floor, West Block, Wisma Selangor Dredging 142-C, Jalan Ampang, 50450
Kuala Lumpur
Malaysia
Tel: +60183588164
Email: pbonifaz@cancilleria.gob.ec

EGYPT - ÉGYPTE - EGIPTO

Prof Hanafy Abdelaziz Hanafy Hashem
President of Egyptian Delegation
Professor of Food Science and Technology
Faculty of Agriculture, Al-Azhar University 1 Nabil AbdelRahman, 6 Strict, Nasr City
Cairo
Egypt
Tel: +201006617520
Email: hanafyhashem@hotmail.com

Eng Reda Mohamed Sayed Ismael
Technical Secretariat for Oils and Fats Committee
Food Standards
Egyptian Organization For Standardization And Quality (EOS)
16 Tadreeb ElMudarbeen St. AlAmereyah
Cairo
Egypt
Tel: +20222845531
Email: reda.mohamedsayed@yahoo.com

Dr Reda Ibrahim Mohamed Abdelgalil
General Technical Manager
Technical Department
Chamber of Food Industries
1195 Cornish ElNile St.
Cairo
Egypt
Tel: +201006505752
Email: redaabdelgalil@gmail.com

EUROPEAN UNION - UNION EUROPÉENNE - UNIÓN EUROPEA

Mr Risto Holma
Administrator
DG Health and Food Safety
European Commission
Rue Froissart 101
Brussels
Belgium
Tel: +32 229-98683
Email: risto.holma@ec.europa.eu

Ms Ariane Vander Stappen
DG Agriculture
European Commission
Rue de la Loi 130 - 07/010
Brussels
Belgium
Tel: +32 229-80280
Email: ariane.vander-stappen@ec.europa.eu

FRANCE - FRANCIA

Dr Brigitte Pouyet
Chargée de mission
DGCCRF - Direction générale de la concurrence de la consommation et de la répression des fraudes
59 Boulevard Vincent AURIOL
Paris
France
Tel: 01 44 97 31 52
Email: brigitte.pouyet@dgccrf.finances.gouv.fr

GERMANY - ALLEMAGNE - ALEMANIA

Mr Hermann Josef Brei
Deputy Head of Unit
Uni 214
Federal Ministry of Food and Agriculture
Rochusstr. 1
Bonn
Germany
Tel: +49 228 99 529 4655
Email: Hermann.Brei@bmel.bund.de

Dr Ludger Bruehl
Department of Safety and Quality of Cereals
Max Rubner-Institut, Federal Research Institute of Nutrition and Food
Schützenberg 12
Detmold
Tel: +49 (0)5231 741 302
Email: ludger.bruehl@mri.bund.de

Mrs Outi Tyni
Administrator Council of the European Union
General Secretariat
Council of the European Union
Rue de la Loi/Wetstraat 175
Brussels
Belgium
Tel: +32 2 281 2770
Email: Outi.Tyni@consilium.europa.eu

GHANA

Mrs Nora Narkie Terlabie
Principal regulatory officer
food and drugs authority
P. O. BOX CT 2783, Cantonments Accra
Accra
Ghana
Tel: +233 509127810
Email: narkie_t@yahoo.co.uk

Mr Seidu Umaru
Principal Regulatory Officer
Food Evaluation and Registration Department
Food and Drug Authority
P.O. Box CT 2783 Cantonments - Accra
Accra
Ghana
Tel: +233 244523341
Email: umarusei@yahoo.co.uk

INDIA - INDE

Dr Prabodh Halde
Convener, SEA – Food Regulatory Committee
Solvent Extractors Association of India
Mumbai
India
Tel: +919820278746
Email: Prabodh.Halde@marico.com

Mr S C Khurana
Consultant
Food Safety and Standards Authority of India
FDA Bhawan, Near Bal Bhawan
New Delhi
India
Tel: +91 9899314228
Email: khurana183@gmail.com

Dr K D Yadav
Chairman -Technical Committee
The Vanaspati Manufacturers' Association of India
908, Akashdeep, 26-A, Barakhamba Road
New Delhi
India
Tel: 011 23312640
Email: dr.k.d.yadav@aakkamani.com

Ms Aiman Zaidi
Technical Officer
Food Safety and Standards Authority of India
FDA Bhawan, Near Bal Bhawan
New Delhi
India
Tel: +917838844205
Email: azaidi91@gmail.com

INDONESIA - INDONÉSIE

Mrs Andriani Z -
Deputy Director of Food Crops Processing Industry
Directorate of Food, Marine Products and Fisheries Industry
Ministry of Industry
Building, 17th Floor Gatot Subroto Street, kav. 52-53, South Jakarta
Jakarta
Indonesia
Tel: +62813 8252 2981
Email: ria_eriandi@yahoo.co.id

Prof Purwiyatno Hariyadi
National Codex Committee of Indonesia
Southeast Asian Food and Agricultural Science and Technology (SEAFAST) Center
Bogor Agricultural University (IPB)
IPB Campus, Dramaga Bogor, Indonesia
Bogor
Indonesia
Tel: +62811110351
Email: phariyadi@apps.ipb.ac.id

Mrs Ita Kurnia Sholihah
Head of Section of Industrial Resources and Industrial Infrastructure Facilities
Directorate of Food, Marine Products and Fisheries Industry
Ministry of Industry
Building, 17th Floor Gatot Subroto Street, kav. 52-53, South Jakarta
Jakarta
Indonesia
Tel: +62856 2865 215
Email: itakurnia.suparjo@gmail.com

Mrs Ericha Fatma Yuniati
Deputy Director of Plantation Estate Based Industry
Directorate of Food, Marine Products and Fisheries Industry
Ministry of Industry
Building, 17th Floor, Gatot Subroto Street, kav. 52-53, South Jakarta
DKI Jakarta
Indonesia
Tel: +628121383911
Email: icha_yuniati@yahoo.com

**IRAN (ISLAMIC REPUBLIC OF) -
IRAN (RÉPUBLIQUE ISLAMIQUE D') -
IRÁN (REPÚBLICA ISLÁMICA DEL)**

Dr Zahra Piravyvanak
Secretary of National Codex Committee on Fats and Oils in Iran
Research Standard Institute
Iranian National Standards Organization (INSO)
Karaj
Tehran
Iran (Islamic Republic of)
Tel: +982632803889
Email: zpiravi@gmail.com

Dr Sodeif Azadmard Damirchi
Chair of CCFO in Iran
University of Tabriz
Tabriz
Iran (Islamic Republic of)
Tel: sodeifazadmard@yahoo.com
Email: sodeifazadmard@yahoo.com

Mr Behzad Farokhi
Director general
IRAN-Kesht Vsanat Mahidshat.kermansh Complex
Iran (Islamic Republic of)
Tel: +989181314505
Email: befarokhi@yahoo.com

Mrs Maryam Rashidian
Director
m.rashidian@mahidasht.com
Kesht Vsanat Shamal Complex
3-3 Street-Ahmad Ghasir Street Arjanteen Squar
Tehran
Iran (Islamic Republic of)
Tel: +989722884512
Email: nationalcodex@gmail.com

IRAQ

Mr Akram Dawood Ibrahim
Chief Senior Chemist
Ministry of Industry and Minerals
Bagdad- Iraq - general company for food product
Baghdad
Iraq
Tel: +07702804189
Email: akramdawood60@yahoo.com

ITALY - ITALIE - ITALIA

Mr Angelo Faberi
ICQRF - Directorate General for Food and Agricultural products frauds prevention and contrast labour
Ministry of Agricultural Food and Forestry Policies and of Tourism
Via del Fornetto 85
Rome
Italy
Tel: +39 06 46656844
Email: a.faberi@politicheagricole.it

Mr Mauro Quadri
Coordinator Olive Oil Sector
Directorate General of the European Union and International Policies
Ministry of Agricultural Food and Forestry Policies and of Tourism
Via XX Settembre 20
Rome
Italy
Tel: +39 06 46654027
Email: m.quadri@politicheagricole.it

JAPAN - JAPON - JAPÓN

Mr Shinji Sato
Deputy Director
Food Manufacture Affairs Division, Food Industry Affairs Bureau
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo
Japan
Tel: +81-3-6744-0480
Email: shinji_sato660@maff.go.jp

Mr Goro Maruno
Associate Director
Food Safety Policy Division, Food Safety and Consumer Affairs Bureau
Ministry of Agriculture, Forestry and Fisheries
1-2-1, Kasumigaseki, Chiyoda-ku
Tokyo
Japan
Tel: +81-3-3502-8732
Email: goro_maruno850@maff.go.jp

Mr Shigeo Takeuchi
Chair
Vegetable oil standards committee
Japan Oilseeds Processors Association
7-41, Daikokucho, Tsurumi-ku
Yokohama
Japan
Tel: +81-45-503-2431
Email: shigeo.takeuchi@j-oil.com

KENYA

Mr Anthony Irungu
Manager
Food and Agriculture laboratory
Kenya Bureau of Standards
54974
NAIROBI
Kenya
Email: irungu@kebs.org

MALAYSIA - MALAISIE - MALASIA

Dr Ahmad Kushairi Din
Director General
Malaysian Palm Oil Board
No 6, Persiaran Institusi, Bandar Baru Bangi, Kajang
Selangor
Malaysia
Tel: 603-8925 9445
Email: kushairi@mpob.gov.my

Ms Raizawanis Abdul Rahman
Principal Assistant Director
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, No 26, Jalan Persiaran Perdana
Precint 3
Putrajaya
Malaysia
Tel: +603 88850797
Email: raizawanis@moh.gov.my

Ms Zalena Abu Hasan
Head Quality Control Unit
Licensing & Enforcement
Malaysian Palm Oil Board (MPOB)
Wisma Sawit, Lot 6 SS 6, Jalan Perbandaran Kelana Jaya
Selangor
Malaysia
Tel: +603-78022956
Email: zalena@mpob.gov.my

Dr Azmil Haizam Ahmad Tarmizi
Head of Unit
Product Development & Advisory Services Division
Malaysian Palm Oil Board (MPOB)
No 6, Persiaran Institusi, Bandar Baru Bangi
Kajang, Selangor
Malaysia
Tel: +603-87694214
Email: azmil_haizam@mpob.gov.my

Ms Sarafhana Dollah
Executive
Science & Environment Division
Malaysian Palm Oil Council
2nd Floor, Wisma Sawit, Lot 6 Jalan Perbandaran, Kelana Jaya
Selangor
Malaysia
Tel: 03-78064097
Email: sara@mpoc.org.my

Dr Ahmad Parveez Ghulam Kadir
Deputy Director General R&D
Malaysian Palm Oil Board (MPOB)
No 6, Persiaran Institusi, Bandar Baru Bangi, Kajang
Selangor
Malaysia
Tel: +603-87694403
Email: parveez@mpob.gov.my

Dr Elina Hishamuddin
Senior Research Officer
Product Development and Advisory Service Division
Malaysian Palm Oil Board (MPOB)
No 6, Persiaran Institusi, Bandar Baru Bangi, Kajang
Selangor
Malaysia
Tel: 603-8769 4431
Email: elina@mpob.gov.my

Ms Muzlina Farah Muhammad
Regulatory Affair Lead
Food Safety Quality Regulatory
Cargill Palm Products Sdn Bhd
No 167, Jalan KEM,, Port Klang
Selangor
Malaysia
Tel: +603-31653888
Email: muzlina_farah_muhammad@cargill.com

Ms Rosidah Radzian
Director
Product Development and Advisory Services Division
Malaysian Palm Oil Board (MPOB)
No. 6 Persiaran Institusi, Bandar Baru Bangi, Kajang
Selangor
Malaysia
Tel: +603-87694589
Email: rosidah@mpob.gov.my

Mr Ahmad Nadzri Sulaiman
Director
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma No 26, Jalan Persiaran Perdana,
Precint 3
Putrajaya
Malaysia
Tel: +60 8885 0788
Email: ahmadnadzri@moh.gov.my

Ms Najwa Sulaiman
Research Officer
Product Development and Advisory Services
Malaysian Palm Oil Board (MPOB)
No 6, Persiaran Institusi, Bandar Baru Bangi
Kajang, Selangor
Malaysia
Tel: +603-87894430
Email: najwa.sulaiman@mpob.gov.my

Mr Beng Chuan Teoh
Deputy CEO
The Palm Oil Refiners Association of Malaysia (PORAM)
801C/802A, Block B, Executive Suites, Kelana Business Center 97, Jalan SS 7/2 Kelana Jaya
Selangor
Malaysia
Tel: 603-7492 0006
Email: teoh@poram.org.my

Dr Chee Beng Yeoh
Research Officer
Product Development & Advisory Services
Malaysian Palm Oil Board (MPOB)
No 6, Persiaran Institusi, Bandar Baru Bangi
Kajang, Selangor
Malaysia
Tel: +603-87694436
Email: cbyeoh@mpob.gov.my

MEXICO - MEXIQUE - MÉXICO

Mr Adolfo Garcia Estrada
Deputy Head of Mission
Embassy of Mexico in Malaysia
Secretaría de Relaciones Exteriores
Suite 22-05, 207 Jalan Tun Razak
Kuala Lumpur
Malaysia
Tel: +603 2164 6362
Email: agarciae@sre.gob.mx

Mr Regino Javier Avila Pérez
Gerente Técnico
Sesajal Sa De Cv
Calle 22 No.2332
Guadalajara, Jalisco
Mexico
Tel: 33 31343470
Email: regino.avila@sesajal.com

Mr Edgar Barron Murillo
Gerente de Planta
Aceites Especiales TH, S.A. DE C.V.
Eje Norte Sur 451 Col.Cuidad Industrial
Morelia, Michoacan
Mexico
Tel: 4432041032
Email: ebarron@aeth.mx

Mrs Mitsuky Soraya SerafÍn GarcÍa
Jefe de Aseguramiento de Calidad
Aceitera Mevi Mexico SA DE CV
Carretera Cuidad Guzmán A Zapotilic 800 KM 2,
Huescalapa
Jalisco
Mexico
Tel: 3411010518
Email: mserafin@aceiteramevi.com.mx

MOROCCO - MAROC - MARRUECOS

Mrs Nadia Maata
Chef Division Recherche Développement et Relations Extérieurs
Agriculture
Laboratoire Officiel d'Analyses et de Recherches Chimiques de Casablanca
25, rue Nichakra Rahal Casablanca
Casablanca
Morocco
Tel: 00212522302007
Email: maata.loarc@gmail.com

Eng Asmaa Ben maïmoun
Chef de Service des Relations avec les Acteurs
Ministère de l'Agriculture, de la Pêche Maritime, du Développement Rural et des Eaux et Forêts
Direction de Développement des Filières de Production
Station D'bagh, Avenue Hassan II
Rabat
Morocco
Tel: 00 212 657 831 533/00 212 661 10 51 39
Email: benmaimounasmaa@yahoo.fr

Mr El Mekroum Brahim
Director
Conformité Industrielle
Groupe Holding HOLMARCOM.
Les Eaux Minérales d'Oulmes S.A 20180 BOUSKOURA
Casablanca
Morocco
Tel: +212 661326698
Email: elmekroum@oulmes.ma

Mr Mohamed El Amine El Amrani
Chef de la Division de la Législation et des Etudes Juridiques.
Ministère de l'Agriculture, de la Pêche Maritime, du Développement Rural et des Eaux et Forêts
Direction des Affaires Administratives et Juridiques.
Station Dbagh, Av Hassan II Rabat.
Rabat
Morocco
Tel: 00212657832042-00212537103500
Email: elamrani.jr@gmail.com

Dr Abderraouf El Antari
Research Director
National Institute of Agronomic Research, Regional Center for Agricultural Research in Marrakech, BP 533
Marrakech
Morocco
Tel: 0 212 5 24 43 53 01 / 0212 6 67 97 11 01
Email: a_elantari@yahoo.fr

Ms Arif Khadija
Ingénieur en Chef
Chef du Service de Contrôle des Produits Végétaux et d'Origine Végétale
Ministère de l'Agriculture, de la Pêche Maritime du Développement Rural et des Eaux et Forêts
Office National de Sécurité Sanitaire des Produits Alimentaires
Avenue Hadj Ahmed Cherkaoui - Agdal
Rabat
Morocco
Tel: +212 537 676618
Email: arif.khadija14@gmail.com

Mr Hassan Mouho
Responsable Laboratoire de Marrakech
Etablissement Autonome de Contrôle et de Coordination des Exportations- Morocco Foodex
EACCE - Résidence Lazrak Avenue Abdelkrim Khattabi
Gueliz – Marrakech
Morocco
Tel: +212 6 18 53 22 77
Email: mouho@mfoodex.ma

NETHERLANDS - PAYS-BAS - PAÍSES BAJOS

Mr Vincent Van Den Berk
Policy Coordinator Sustainable Agro-Commodities
Ministry of Economic Affairs
PO Box 20401
The Hague
Netherlands
Tel: +316 11744446 or +316 57911616
Email: v.vandenberk@minez.nl

PERU - PÉROU - PERÚ

Eng Gloria Atala Castillo Vargas
Especialista de Normalización
Instituto Nacional de Calidad - INACAL
Calle las Camelias 817, San Isidro 15046
Lima - Peru
Tel: +51 986734877
Email: gcastillo@inacal.gob.pe

Eng Miguel Enrique Gallo Seminario
Gerente de Innovación y Calidad
Pesquera Diamante S. A.
Calle Amador Merino Reyna 307 Piso 12 – San Isidro
Lima - Peru
Tel: +51 987935257 / +51 513 2000
Email: mgallo@diamante.com.pe

Eng Javier Ignacio Igarashi Hasegawa
Gerente de Calidad
Tecnológica de Alimentos S. A.
Jr. Carpaccio N°250, piso 11 – San Borja
Lima -Peru
Tel: +51 994048275
Email: jigarashi@tasa.com.pe

Mr Guillermo David Lauriano Rojas
Jefe de la Sección Consular
Embajada del Perú en Malasia
Ministerio de Relaciones Exteriores del Perú
Wisma Golden Eagle Realty (ex-Wisma Selangor Dredging) 6th Floor South Block, 142-A Jalan Ampang, 50450 Kuala Lumpur, Malaysia.
Lima - Peru
Tel: +60-11-2826-8058
Email: perumalasia.glauriano@gmail.com

POLAND - POLOGNE - POLONIA

Mrs Urszula Wieteska
Senior Expert
Department of Food Marketing Quality Control
Agricultural and Food Quality Inspection
30, Wspolna, Str.
Warsaw
Poland
Tel: +48226232919
Email: uwieteska@ijhars.gov.pl

REPUBLIC OF KOREA - RÉPUBLIQUE DE CORÉE - REPÚBLICA DE COREA

Dr Sang Hee Cheon
Scientific Officer
Food Standard Division
Ministry of Food and Drug Safety
187 Osongsaengmyeong 2(i)-ro, Osong-eup, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, Republic of Korea
Email: shcheon@korea.kr

Ms Sul Hyun Park
Codex researcher
Food Safety Labelling and Certification Division
Ministry of Food and Drug Safety
187 Osongsaengmyeong 2-ro, Osong-eup, Heungdeok-gu, Cheongju-si Chungcheongbuk-do, Republic of Korea
Email: seolhyunpark@korea.kr

ROMANIA - ROUMANIE - RUMANIA

Ms Oana Stroie
National Sanitary Veterinary and Food Safety Authority
Bucharest
Romania
Tel: +40724396949
Email: stroie.oana-b@ansvsa.ro

RUSSIAN FEDERATION - FÉDÉRATION DE RUSSIE - FEDERACIÓN DE RUSIA

Mr Vladimir Bessonov
Head
Fats and Oils Laboratory
Federal Research Centre of Nutrition, Biotechnology and Food Safety
2/14 Ustinsky proezd
Moscow
Russian Federation
Tel: +7 495 698 53 60
Email: bessonov@ion.ru

Mrs Tatiana Ionova
Regulatory Affairs Expert
Consumer Market Participants Union
1-y Schipkovsky per., 20, 403a
Moscow
Russian Federation
Tel: +7 (495) 608-99-66
Email: codex@np-supr.ru

SPAIN - ESPAGNE - ESPAÑA

Mr Juan Ramón Izquierdo Álvarez- Buylla
Jefe de Servicio del Departamento de Análisis de Aceites y Grasas
Laboratorio Arbitral Agroalimentario;
Ministerio de Agricultura, Pesca y Alimentación
C/ Aguarón nº 13 28023-
Madrid
Spain
Tel: 913474961
Email: jialvarez@mapama.es

Ms Beatriz Baena Ríos
Jefa de Servicio Adjunta del Departamento de Análisis de Aceites y Grasas
Laboratorio Arbitral Agroalimentario. Departamento de Análisis de Aceites y Grasas
Ministerio de Agricultura, Pesca y Alimentación
C/ Agurarón nº 13 28023 Madrid
Madrid
Spain
Tel: 913475011
Email: bbaena@mapama.es

Ms Ana Fraile Vasallo
Jefa de Servicio Técnico
Subdirección General de Control y de Laboratorios Alimentarios. Dirección General de la Industria
Ministerio de Agricultura, Pesca y Alimentación
Pº Infanta Isabel nº1 28071
Madrid
Spain
Tel: 913475011
Email: afrailev@mapama.es

SUDAN - SOUDAN - SUDÁN

Mr Mohgoub Ahmed Abd Elmagid
Technical Committees Manager
Sudanese Standard and Metrology Organisation
Khartoum
Sudan
Tel: +24 9912667281
Email: niamatom@hotmail.com

Dr Ehlam Hossain
Director
fats and oils
National Research Center
KHARTOUM North Shambat City P.O. box 213
Khartoum
Sudan
Email: frcsudan@yahoo.com

Ms Amani Balla
Labs Manager
Sudanese standard and metrology organization
Port Sudan
Tel: +249 9 12662288
Email: amani_balla@yahoo.com

SWITZERLAND - SUISSE - SUIZA

Mr Mark Stauber
Head, Food Hygiene
Federal Food Safety and Veterinary Office FSVO
Bern
Switzerland
Email: Mark.Stauber@blv.admin.ch

Dr Manfred Lützow
Advisor
saqual GmbH
Hardstrasse 59 Neuenhof
Wettingen
Switzerland
Email: maluetzow@saqual.com

SYRIAN ARAB REPUBLIC - SYRIENNE, RÉPUBLIQUE ARABE - SIRIA, REPÚBLICA ARABE

Mr Tamim Madani
Syrian Embassy in Malaysia
No 93, Jalan U-Thant, Taman U-Thant
Kuala Lumpur
Malaysia
Tel: 0060342516364
Email: madanitamim@gmail.com

Mrs Layla Akleh
Syrian Embassy in Malaysia
No 93, Jalan U-Thant, Taman U-Thant
Kuala Lumpur
Malaysia
Tel: 0060342516364
Email: enquiry@syrianembassy.com.my

Mr Yaman Sarem
Syrian Embassy in Malaysia
No 93, Jalan U-Thant, Taman U-Thant
Kuala Lumpur
Malaysia
Tel: 0060183531077
Email: yamansarem@gmail.com

THAILAND - THAÏLANDE - TAILANDIA

Ms Yupa Laojindapun
Expert in Agricultural Commodity and Food Standards
National Bureau of Agricultural Commodity and Food Standards (ACFS)
50 Phaholyothin Road, Ladyao Chatuchak
Bangkok
Thailand
Tel: +662 5612277 ext 1421
Email: yupa@acfs.go.th

Ms Jiraporn Banchuen
Standards Officer, Professional Level
National Bureau of Agricultural Commodity and Food Standards
Ministry of Agriculture and Cooperatives
50 Paholyothin Road, Chatuchak
Bangkok
Thailand
Tel: +662 5612277 ext. 1415
Email: jiraporn@acfs.go.th

Ms Arunee Danudol
Medical Scientist, Senior Profession Level
Department of Medical Sciences
88/7 Tiwon Road, Muang
Nonthaburi
Thailand
Tel: +662 9510000-9 ext. 99625
Email: arunee.d@dmsc.mail.go.th

Ms Jarunee Intrasook
Food and Drug Technical Officer, Professional level
Food and Drug Administration
88/24 Moo 4, Tiwanon Road, Muang
Nonthaburi
Thailand
Tel: +662 5907178
Email: jar204j@fda.moph.go.th

Ms Jintana Kitcharoenwong
Medical Scientist, Senior Profession Level
Department of Medical Sciences
88/7 Tiwon Road, Muang
Nonthaburi
Thailand
Tel: +662 9510000-9 ext. 99524
Email: jintana.ki@dmsc.mail.go.th

Mr Adul Premprasert
The Federation of Thai Industries
Committee of Food Processing Industry Club The Federation of Thai Industries Queen Sirikit National Convention Center, Zone C,4th Floor 60 Rachadapisek Road, Klongtoey
Bangkok
Thailand
Tel: +662 816296737
Email: adul@cook.co.th

TURKEY - TURQUIE - TURQUÍA

Prof Aziz Tekin
Academic member
Faculty of Engineering
Ankara University
50 yıl Yerleskesi Bahcelievler Mah Golbasi
Ankrara
Turkey
Tel: +903122033300
Email: aziz.tekin@ankara.edu.tr

Ms Hatice Uslu
Engineer
Food Establishments and Codex
Ministry of Agriculture and Forestry
Eskisehir yolu 9.Km Lodumlu
Ankara
Turkey
Tel: +903122587753
Email: hatice.uslu@tarimorman.gov.tr

UGANDA - OUGANDA

Mr Paul Omara
CEO - Ngetta Tropical Holdings Ltd
NTH P.O Box 59, Lira,
Uganda
Tel: +256772610296
Email: pomara007@gmail.com

UNITED KINGDOM - ROYAUME-UNI - REINO UNIDO

Ms Sophie Gallagher
Food Policy Advisor
Food Compositional Standards
Defra
Seacole Block, 2 Marsham Street, Westminster
London
United Kingdom
Tel: 02080 265873
Email: sophie.gallagher@defra.gov.uk

Mrs Michelle Mcquillan
Team Leader Food Compositional Standards
Department for Environment Food and Rural Affairs
2 Marsham Street
London
United Kingdom
Tel: +44 7867196715
Email: Michelle.McQuillan@defra.gsi.gov.uk

UNITED REPUBLIC OF TANZANIA - RÉPUBLIQUE-UNIE DE TANZANIE - REPÚBLICA UNIDA DE TANZANÍA

Mr Lawrence Chenge
Standards Officer
Process Technology Standards
Tanzania Bureau of Standards
P.O BOX 9524
Dar Es Salaam
United Republic of Tanzania
Tel: +255 713 067 690 AND +255 787
Email: lawrence.chenge@tbs.go.tz

Ms Edeltruds Symforian
Tanzania Food and Drugs Authority
P.O BOX 77150
Dar Es Salaam
United Republic of Tanzania
Email: edeltruds.assenga@tfda.go.tz

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

Dr Paul South
Director
Division of Plant Products and Beverages
Center for Food Safety and Applied Nutrition
U.S. Food and Drug Administration 5001 Campus Drive
College Park, MD
United States of America
Tel: +1-240-402-1640
Email: Paul.South@fda.hhs.gov

Ms Lindsay Carter
International Trade Specialist
Foreign Agricultural Service
U.S. Department of Agriculture
Processed Products and Technical Regulations Division
Office of Agreements and Scientific Affairs 1400
Independence Ave SW South Building Rm 5532 From:
Kishore, Rita - FSIS
Washington, DC
United States of America
Tel: +1-(202) 720-1008
Email: Lindsay.Carter@fas.usda.gov

Ms Marie Maratos
International Issues Analyst
U.S. Codex Office
U. S. Department of Agriculture
1400 Independence Avenue, SW Room 4861
Washington, DC
United States of America
Tel: +1-202-690-4795
Email: marie.maratos@osec.usda.gov

Dr Robert Moreau
Research Chemist
Eastern Regional Research Center, Agricultural Research Service
U.S. Department of Agriculture
600 East Mermaid Lane
Wyndmoor, PA
United States of America
Tel: +1.215.233.6428
Email: robert.moreau@ars.usda.gov

VIET NAM

Mr Dang Tat Thanh
Senior Officer
Food Safety and Biotechnology Division
Science and Technology Department-Ministry of Trade and Industry
54 Hai Ba Trung Street
Hanoi
Viet Nam
Tel: 0936611588
Email: thanhdt@moit.gov.vn

Mrs Do Thi Kim Oanh
Senior Manager
Quality Assurance/LAB
Cai Lan Oils and fats industries Company Ltd
Cai Lan IZ – Bai Chay ward – Ha Long city - Quang Ninh province
Hanoi
Viet Nam
Tel: 0989956988
Email: kimoanh.do@vn.wilmar-intl.com

Mr Pham Van Dung
Production Head
Cai Lan Oils and fats industries Company Ltd
Cai Lan IZ – Bai Chay ward – Ha Long city - Quang Ninh province
Hanoi
Viet Nam
Email: vandung.pham@vn.wilmar-intl.com

OBSERVERS
OBSERVATEURS
OBSERVADORES

UNITED NATIONS AND OTHER RELATED ORGANIZATIONS
NATIONS UNIES ET AUTRES ORGANISATIONS APPARENTÉES
NACIONES UNIDAS Y OTRAS ORGANIZACIONES AFINES

EUROPEAN FOOD EMULSIFIER MANUFACTURERS' ASSOCIATION (EFEMA)

Mr Victor Basuki
SEA Scientific & Regulatory Affairs Manager – DuPont Nutrition & Health
EFEMA
J.L Ampera Raya No 9-10
Jakarta
Indonesia
Email: Victor.Basuki@dupont.com

Mr Vinh Le Hoang
Regulatory Affairs Leader, Vietnam & Myanmar – DuPont Nutrition & Health
EFEMA
Email: le.h.vinh@dupont.com

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

Dr Gretel Bescoby
Technical Manager
FOSFA International
4-6 Throgmorton Avenue
London
United Kingdom
Tel: 07780938561
Email: gretel.bescoby@fosfa.org

GLOBAL ORGANIZATION FOR EPA AND DHA OMEGA-3S (GOED)

Dr Harry Rice
Global Organization for EPA and DHA Omega-3s (GOED)
1075 Hollywood Avenue South
Salt Lake City
United States of America
Email: harry@goedomega3.com

INTERNATIONAL OLIVE OIL COUNCIL (IOOC)

Ms Mercedes Fernandez Albaladejo
Head of Standardisation & Research Unit
International Olive Council
Principe de Vergara 154
Madrid
Spain
Tel: +34 915903640
Email: m.fernandez@internationaloliveoil.org

Ms Jaime Lillo
Deputy Executive Director
International Olive Council
Principe de Vergara 154
Madrid
Spain
Tel: +34 9159036338
Email: j.lillo@internationaloliveoil.org

UNITED STATES PHARMACOPEIAL CONVENTION (USP)

Dr Richard Cantrill
Food Standards
U. S. Pharmacopeial Convention (USP)
12601 Twinbrook Parkway
Rockville
United States of America
Tel: 3018168356
Email: richard.cantrill@gmail.com

Ms Gina Clapper
Senior Scientific Liaison
Food Standards
U. S. Pharmacopeial Convention (USP)
12601 Twinbrook Parkway
Rockville
United States of America
Tel: 3018168356
Email: gina.clapper@usp.org

HOST GOVERNMENT SECRETARIAT - SECRÉTARIAT DU GOUVERNEMENT HÔTE - SECRETARÍA DEL GOBIERNO ANFITRIÓN

Technical Team

Ms. Norrani Eksan
Deputy Director Export Branch
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603 8885 0797
Email: norrani@moh.gov.my

Ms Zailina Abdul Majid
Principal Assistant Director Standard and Codex Branch
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603 8885 0797 ext. 4071
Email: zailina.am@moh.gov.my

Ms Ruhana Abdul Latif
Principal Assistant Director
Standard and Codex Branch
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603 8885 0797 ext.4003
Email: ruhana_latif@moh.gov.my

Ms Shazlina Mohd Zaini
Senior Assistant Director Standard and Codex Branch
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603 8885 0797 ext. 4061
Email: shazlina@moh.gov.my

Ms Nurul Syuhada Mohamad Basri
Assistant Director Standard and Codex Branch Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603-8885 0797 ext. 4077
Email: syuhada.mbasri@moh.gov.my

Ms Nuurul Hidayah Sharipan
Assistant Director Standard and Codex Branch Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Phone: +603-8885 0797 ext. 4066
Email: nuurul.hidayah@moh.gov.my

Ms Seri Rukiah Mohamad Farid
Assistant Director Standard and Codex Branch Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603-8885 0797 ext. 4017
Email: serirukiah.farid@moh.gov.my

Ms Norshafawati Rosli
Assistant Director Standard and Codex Branch Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Phone: +603-8885 0797 ext. 4074
Email: norshafawati@moh.gov.my

Dr Tee E Siong
CCFO Secretariat
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Tel: +603-7728 7287
Email: estee@nutrihealth.com.my

Ms. Shariza Zainol Rashid
CCFO Secretariat
Food Safety and Quality Division
Ministry of Health Malaysia
Level 4, Menara Prisma, Precinct 3
Federal Government Administrative Centre
No 26, Jalan Persiaran Perdana
62675 Putrajaya
MALAYSIA
Email: sharizazr@gmail.com

CODEX SECRETARIAT

Mr Patrick Sekitoleko
Food Standards Officer
Joint FAO/WHO Food Standards Programme
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla
Rome
Italy
Tel: +39 06 5705 6626
Email: patrick.sekitoleko@fao.org

Dr Sarah Cahill
Senior Food Standards Officer
Joint FAO/WHO Food Standards Programme
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla
Rome
Italy
Tel: +390657053614
Email: sarah.cahil@fao.org

Ms Myoengsin Choi
Food Standards Officer
Joint FAO/WHO Food Standards Programme
Food and Agriculture Organization of the United Nations (FAO)
Viale delle Terme di Caracalla
Rome
Italy
Tel: +390657054796
Email: Myoengsin.Choi@fao.org

APPENDIX II

PROPOSED AMENDMENTS AND/OR REVISIONS TO THE STANDARD FOR NAMED VEGETABLE OILS (CXS 210-1999)

New texts added are shown in **bold/underlined** font. Texts proposed for deletion are shown in ~~strikethrough~~.

Part A - (For CAC42 adoption)

A-1: AMENDMENT OF THE VALUES FOR REFRACTIVE INDEX AND APPARENT DENSITY OF PALM SUPEROLEIN AT 40°C (Item 5.1)

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

	Palm Superolein[2]
Refractive index	
(ND 40°C)	**1.459-1.460**
Apparent density, g/mL	
(ND 40°C)	**0.886-0.900**

A-2: AMENDMENT TO THE STANDARD TO CONSIDER THE APPLICABILITY OF THE FATTY ACID COMPOSITION OF OTHER OILS LISTED IN TABLE 1 IN RELATION TO THEIR CORRESPONDING CRUDE FORM (Item 11)

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples[1,2] (expressed as percentage of total fatty acids) (see Section 3.1 of the Standard

Footnote

[2] The fatty acid values in this table apply to the vegetable oils described in Section 2.1 presented in a state for human consumption. However, in order to provide clarity in trade of crude oils, the values of the table may also be applied for the corresponding crude forms of the vegetable oils described in Section 2.1.

APPENDIX

2. COMPOSITION CHARACTERISTICS

~~For the fatty acid range of crude rice bran oil not intended for direct human consumption the ranges as given for rice bran oil in Table 1 apply.~~

A-3: THE INCLUSION OF FREE FATTY ACIDS AS QUALITY CHARACTERISTICS CRITERIA FOR REFINED RICE BRAN OILS (Item 12)

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

1. QUALITY CHARACTERISTICS

	Maximum level
Acidity	
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
Free fatty acid	
Refined Rice bran oil	**0.3 % (as oleic acid)**

Part B (At Step 8)

B-1: ADDITION OF PALM OIL WITH A HIGHER OLEIC ACID (OxG) (Item 3)

2. DESCRIPTION

2.1 Product Definitions

Palm oil with a higher content of oleic acid is derived from the fleshy mesocarp of hybrid palm fruit OxG (Elaeis oleifera x Elaeis guineensis)

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

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

Palm oil with a higher content of oleic acid must contain not less than 48% oleic acid (as % of total fatty acids)

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)

Fatty acid	Palm oil with a higher content of oleic acid
C6:0	ND
C8:0	ND
C10:0	ND
C12:0	ND – 0.6
C14:0	ND – 0.8
C16:0	23.0 – 38.0
C16:1	ND – 0.8
C17:0	ND- 0.2
C17:1	ND
C18:0	1.5 - 4.5
C18:1	48.0 – 60.0
C18:2	9.0 – 17.0
C18:3	ND – 0.6
C20:0	ND – 0.4
C20:1	ND - 0.2
C20:2	ND - 0.5
C22:0	ND – 0.3
C22:1	ND
C22:2	ND
C24:0	ND - 0.2
C24:1	ND

ND - non detectable, defined as ≤ 0.05%

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

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

Table 2: Chemical and physical characteristics of crude vegetable oils

	Palm oil with a higher content of oleic acid
Relative density	**0.896 - 0.910**
(x ºC/water at 20ºC)	**(50 °C/water a 20 ºC)**
Apparent density	**ND**
(g/ml)	
Refractive index	**1.459-1.462**
(ND 40ºC)	
Saponification value	**189 – 199**
(mg KOH/g oil)	
Iodine value	**58 – 75**
Unsaponifiable matter (g/kg)	**≤12**
Stable carbon isotope ratio *	**-**

* For the method 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 3: Levels of desmethylsterols in crude vegetable oils from authentic samples[1] as a percentage of total sterols

	Palm oil with a higher content of oleic acid
Cholesterol	**1.7 - 4.7**
Brassicasterol	**ND - 0.4**
Campesterol	**16.6 - 21.9**
Stigmasterol	**11.2 - 15.5**
Beta-sitosterol	**57.2 – 67.0**
Delta-5-avenasterol	**ND - 1.9**
Delta-7-stigmastenol	**ND - 0.2**
Delta-7-avenasterol	**ND - 1.0**
Others	**ND - 3.8**
Total sterols (mg/kg)	**519 – 1723**

ND - Non-detectable, defined as ≤ 0.05%

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

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

	Palm oil with a higher content of oleic acid
Alpha-tocopherol	**49 – 188**
Beta-tocopherol	**ND**
Gamma-tocopherol	**4 – 138**
Delta-tocopherol	**ND – 31**
Alpha-tocotrienol	**74 – 256**
Gamma-tocotrienol	**406 – 887**
Delta-tocotrienol	**33 – 86**
Total (mg/kg)	**562 – 1417**

ND - Non-detectable

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

Part C (At Step 5/8)

C-1: REPLACEMENT OF ACID VALUE WITH FREE FATTY ACIDS FOR VIRGIN PALM OIL AND INCLUSION OF FREE FATTY ACIDS FOR CRUDE PALM KERNEL OIL (Item 5.2)

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

1. QUALITY CHARACTERISTICS

	Maximum level
Acidity	
Acid value	
Refined oils	0.6 mg KOH/g Oil
Cold pressed and virgin oils **(except crude palm kernel oil and virgin palm oil)**	4.0 mg KOH/g Oil
~~Virgin palm oils~~	~~10.0 mg KOH/g Oil~~
Free fatty acids	
Virgin palm oil	**5.0 % (as palmitic acid)**
Crude palm kernel oil	**4.0 % (as lauric acid)**

5. METHODS OF ANALYSIS AND SAMPLING
Determination of acidity
According to ISO 660: 1996, amended 2003; or AOCS Cd 3d-63 (03); **or AOCS Ca 5a-40[19]**

[19] The method will be incorporated in CXS 234-1999

C-2: INCLUSION OF ALMOND OIL, HAZELNUT OIL, PISTACHIO OIL, FLAXSEED OIL AND WALNUT OIL (Item 5.4)

2. DESCRIPTION

2.1 Product definitions

Almond oil is derived from the kernel of almond fruit (*Amygdalus communis L.*).

Flaxseed (Linseed) oil is derived from the seeds of various cultivated species of *Linum usitatissimum*

Hazelnut oil is derived from the kernel of hazelnut fruit (*Corylus avellana L.*).

Pistachio oil is derived from the kernel of pistachio fruit (*Pistacia vera L.*).

Walnut oil is derived from the kernel of walnut fruit (Juglans *regia L.*).

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.

Table 1: Fatty acid composition of vegetable oils as determined by gas liquid chromatography from authentic samples [20] (expressed as percentage of total fatty acids) (see Section 3.1 of the Standard)

Fatty acid	Almond oil	Flax/linseed oil	Hazelnut oil	Pistachio oil	Walnut oil
C6:0	ND	ND	ND	ND	ND
C8:0	ND	ND	ND	ND	ND
C10:0	ND	ND	ND	ND	ND
C12:0	ND	ND - 0.3	ND	ND	ND
C14:0	ND - 0.1	ND - 0.2	ND - 0.1	ND - 0.6	ND
C16:0	4.0 - 9.0	4.0 - 11.3	4.2 - 8.9	8.0 - 13.0	6.0 - 8.0
C16:1	0.2 - 0.8	ND - 0.5	ND - 0.5	ND - 2.0	ND - 0.4
C17:0	ND - 0.2	ND - 0.1	ND - 0.1	ND - 0.1	ND - 0.1
C17:1	ND - 0.2	ND - 0.1	ND - 0.1	ND - 0.1	ND - 0.1
C18:0	ND - 3.0	2.0 - 8.0	0.8 - 3.2	0.5 - 3.5	1.0 - 3.0
C18:1	62.0 – 76.0	9.8 - 36.0	74.2 - 86.7	50.0 - 70.0	14.0 - 23.0
C18:2	20.0 - 30.0	8.3 - 30.0	5.2 - 18.7	8.0 - 34.0	54.0 - 65.0
C18:3	ND - 0.5	43.8 - 70.0	ND - 0.6	0.1 - 1.0	9.0 - 15.4
C20:0	ND - 0.5	ND - 1.0	ND - 0.3	ND - 0.3	ND - 0.3
C20:1	ND - 0.3	ND - 1.2	ND - 0.3	ND - 0.6	ND - 0.3
C20:2	ND	ND	ND	ND	ND
C22:0	ND - 0.2	ND - 0.5	ND - 0.2	ND	ND - 0.2
C22:1	ND - 0.1	ND - 1.2	ND - 0.1	ND	ND
C22:2	ND	ND	ND	ND	ND
C24:0	ND - 0.2	ND - 0.3	ND	ND	ND
C24:1	ND	ND	ND - 0.3	ND	ND

ND – non detectable, defined as $\leq 0.05\%$

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

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

1. CHEMICAL AND PHYSICAL CHARACTERISTICS

Chemical and Physical Characteristics are given in Table 2

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

	Almond oil	Flax/linseed oil	Hazelnut oil	Pistachio oil	Walnut oil
Relative density (x°C/water at 20°C)	0.911-0.929 25˚C/water 25˚C	0.925-0.935 25˚C/water 25˚C;	0.898-0.915 20˚C/water 20˚C	0.915-0.920 15.5˚C/water 15.5˚C	0.923-0.925 25˚C/water 25˚C
Apparent density (g/ml)					
Refractive index (ND 40°C)	1.468-1.475 at 20˚C;	1.472-1.487 at 20˚C 1.472-1.475 at 40 ˚C	1.468-1.473 at 20˚C; 1.456-1.463 at 40˚C	1.467-1.470 at 25˚C; 1.460-1.466 at 40˚C	1.472-1.475 at 25˚C; 1.469-1.471 at 40˚C
Saponification value (mg KOH/g oil)	183-207	185-197	188-198	187-196	189-198
Iodine value	85-109	170-211	81-95	84-98	132-162
Unsaponifiable matter (g/kg)	≤20	≤20	≤15	≤30	≤20
Stable carbon isotope ratio *					

* 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.

2. IDENTITY CHARACTERISTICS

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

Table 3: Levels of desmethylsterols in crude vegetable oils from authentic samples[20] as a percentage of total sterols (see Appendix 1 of the Standard)

	Almond oil	Flax/linseed oil	Hazelnut oil	Pistachio oil	Walnut oil
Cholesterol	ND - 1.0	ND	ND - 1.1	ND – 1.0	ND
Brassicasterol	ND - 0.3	ND - 1.0	ND	ND	ND
Campesterol	2.0 - 5.0	25.0 - 31.0	3.0 - 6.2	4.0 - 6.5	4.0 - 6.5
Stigmasterol	0.4 - 4.0	7.0 - 9.0	ND - 2.0	0.5 - 7.5	ND
Beta-sitosterol	73.0 – 86.0	45.0 - 53.0	76.45 - 96.0	75.0 – 94.0	70.0 - 92.0
Delta-5-avenasterol	5.0 – 14.0	8.0 - 12.0	1.0 - 5.1	6.0 - 8.0	0.5 - 6.0
Delta-7-stigmastenol	ND - 3.0	ND	ND - 4.3	ND - 0.7	ND - 3.0
Delta-7-avenasterol	ND - 3.0	ND	ND - 1.6	ND - 0.5	ND - 2.0
Others	ND - 6.0	ND	ND	ND	ND
Total sterols (mg/kg)	1590 – 4590	2300 – 6900	1200 – 1800	1840 -4500	500 – 1760

ND - Non-detectable, defined as ≤ 0.05%

Table 4: Levels of tocopherols and tocotrienols in crude vegetable oils from authentic samples [20] (mg/kg) (see Appendix 1 of the Standard)

	Almond oil	Flax/linseed oil	Hazelnut oil	Pistachio oil	Walnut oil
Alpha-tocopherol	20 - 545	2 - 265	100 - 420	10 - 330	ND - 170
Beta-tocopherol	ND - 10	ND	6 - 12	ND	ND - 110
Gamma-tocopherol	ND -104	100 - 712	18 - 194	0 - 100	120 - 400
Delta-tocopherol	ND - 5	ND - 14	ND - 10	ND - 50	ND - 60
Alpha-tocotrienol	ND	ND	ND	ND	ND
Gamma-tocotrienol	ND	ND	ND	ND	ND
Delta-tocotrienol	ND	ND	ND	ND	ND
Total (mg/kg)	20 - 600	150 - 905	200 - 600	100 - 600	309 - 455

APPENDIX III

AMENDMENT TO THE FOOD ADDITIVES PROVISIONS IN STANDARDS OF FATS AND OILS

AND

ALIGNMENT OF FOOD ADDITIVES BETWEEN THE STANDARDS OF FATS AND OILS AND THE *GENERAL STANDARD FOR FOOD ADDITIVES* (GSFA) – (CXS 192-1995)

Part A: Update of food additives provisions in fats and oils standards

(For adoption by CAC42)

1. The following food additive provisions should be added to the *Standard for Edible Fats and Oils Not covered by Individual Standards* (CXS 19-1981):

   Section 3.3 Antioxidants and **Section 3.4** Antioxidant synergists:

   Lecithin (INS 322(i)) with a maximum use level (ML) of good manufacturing practice (GMP)

   Section 3.4 Antioxidant synergists:

   Tricalcium citrate (INS 333(iii)) with ML of GMP

   Tripotassium citrate (INS 332(ii)) with ML of GMP

   Section 3.5 Antifoaming agents (for oils and fats for deep frying):

   Mono- and di-glycerides of fatty acids (INS 471) with a ML of GMP

2. The following food additive provisions should be added to the *Standard for Named Vegetable Oils* (CXS 210-1999):

   Section 4.2 Antioxidants and Section4.3 Antioxidant synergists:

   Lecithin (INS 322(i)) with a maximum use level (ML) of good manufacturing practice (GMP)

   Section 4.3 Antioxidant synergists:

   Tricalcium citrate (INS 333(iii)) with ML of GMP

   Tripotassium citrate (INS 332(ii)) with ML of GMP

3. The following food additive provisions should be added to the *Standard for Named Animal Fats* (CXS 211-1999):

   Section 4.2 Antioxidants and Section 4.3 Antioxidant synergists:

   Lecithin (INS 322(i)) with a maximum use level (ML) of good manufacturing practice (GMP)

   New Section 4.4 Antifoaming agents (for oils and fats for deep frying):

   Mono- and di-glycerides of fatty acids (INS 471) with a ML of GMP

Part B: Revocation of food additive provisions in fats and oils standards

(For Adoption by CAC42)

1. The following provisions should be revoked in Section 4.1 Acidity regulators in the *Standard for Fat Spreads and Blended Spreads* (CXS 256-2007):

   Monosodium tartrate (INS 335(i))

   Monopotassium tartrate (INS 336(i))

   Dipotassium tartrate (INS 336(ii))

2. The following provision should be revoked in Section 4.7 Preservatives in the *Standard for Fat Spreads and Blended Spreads* (CXS 256-2007):

   Sodium Sorbate (INS 201)

Part C: ALIGNMENT OF FOOD ADDTIVE PROVISIONS IN FATS AND OILS STANDARDS WITH GSFA

(For Action by CCFA)

Note: this Annex does not address the alignment of the GSFA provisions in the step process except for the provisions for the same additives for which the adopted provisions are in the CCFO' standards.

Standard for Named Vegetable Oils (CXS 210-1999)

Commodities conforming to CXS 210-1999 fall in the GSFA food category (FC) 02.1.2 (Vegetable oils and fats).

The current provisions in section 4 of CXS 210-1999 list individual food additives associated with the following functional classes:

- antioxidants (including antioxidant synergists)
- anti-foaming agents (oils for deepfrying)

According to section 4 of CXS 210-1999, no food additives are permitted in virgin or cold pressed oils.

FC 02.1.2 is listed in the Annex to Table 3. Therefore, food additive provisions implied by Table 3 do not apply to commodities conforming to CXS 210-1999.

The following issues will need to be addressed in aligning the food additive provisions in section 4 of CXS 210-1999 with the provisions of Tables 1 and 2 of GSFA:

1. The following food additives are listed under FC 02.1.2 in GSFA but are not listed in section 4 of CXS 210-1999:

INS No.	Additive	Maximum Use Level
160a(ii)	beta-Carotenes, vegetable	1,000 mg/kg
160a(i), a(iii),e,f	Carotenoids	
314	Guaiac resin	1,000 mg/kg
484	Stearyl citrate	GMP

Note XS210 indicating "excluding products conforming to the Standard for Named Vegetable Oils (CXS 210-1999)" should be introduced for these provisions in Tables 1 and 2 of GSFA for 160a(ii), 314 and 484.

The following food additives in the functional class emulsifiers are listed under FC 02.1.2 in GSFA but no technological justification has been provided for their use in commodities conforming to CXS 210-1999:

INS No.	Additive	Maximum Use Leve
472e	Diacetyltartaric and fatty acid esters of glycerol	10,000 mg/kg
432-436	Polysorbates	5,000 mg/kg
477	Propylene glycol esters of fatty acids	10,000 mg/kg
322 (i)	Lecithin	GMP

Provided the use of INS 475, INS 491- 495 and INS 481(i)- 482(i) is allowed in CXS 210-1999, Note XS210 indicating "excluding products conforming to the Standard for Named Vegetable Oils (CXS 210-1999)" should be introduced for INS 472e, INS 322(i), INS 432-436 and INS 477 in Tables 1 and 2 of GSFA.

As the use lecithin (INS 322(i)) is justified as an antioxidant but not as an emulsifier, a new note should be introduced for lecithin in Tables 1 and 2 of GSFA indicating "for use as an antioxidant only in products conforming to the Standard for Named Vegetable Oils (CXS 210-1999)".

The group thiodipropionates (thiodipropionic acid (INS 388) and dilauryl thiodipropionate INS (389)) is listed under FC 02.1.2 with antioxidant function in GSFA but it is not listed in section 4 of CXS 210-1999. However, dilauryl thiodipropionate (INS 389) is listed in CXS 210-1999. In line with the working principles for alignment work it is appropriate to include all the individual additives with the appropriate

functional class in the group in the alignment exercise thus allowing the use of the group thiodipropionates in foods conforming to CXS 210-1999.

Tricalcium citrate (INS 333(iii)) and tripotassium citrate (INS 332(ii)) are listed under FC 02.1.2 in GSFA but they are not listed in section 4 of CXS 210-1999.

2. Section 4 of CXS 210-1999 provides for a maximum level of 100 mg/kg for Propyl gallate (INS 310) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for propyl gallate in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 210-1999 at 100 mg/kg".

Section 4 of CXS 210-1999 provides for a maximum use level of 120 mg/kg for tertiary butylhydroquinone (INS 319) while GSFA sets a maximum use level of 200 mg/kg.

A new note should be introduced for tertiary butylhydroquinone in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 210-1999 at 120 mg/kg".

Section 4 of CXS 210-1999 provides for a maximum use level of 75 mg/kg for butylated hydroxytoluene (INS 321) while GSFA sets a maximum use level of 200 mg/kg.

A new note should be introduced for butylated hydroxytoluene in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 210-1999 at 75 mg/kg".

Section 4 of CXS 210-1999 provides that any combination of gallates, BHA, BHT, or TBHQ should not to exceed 200 mg/kg within individual limits.

Note 133 (Any combination of butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), and propyl gallate (INS 310) at 200 mg/kg, provided that single use limits are not exceeded) should be introduced for propyl gallate, BHA, BHT and TBHQ in Tables 1 and 2 of GSFA.

Section 4 of CXS 210-1999 provides for a maximum use level of 100 mg/kg for isopropyl citrates (INS 384) while GSFA sets a maximum use level of 200 mg/kg.

A new note should be introduced for isopropyl citrates in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 210-1999 at 100 mg/kg".

3. Antifoaming agents are technologically justified in products conforming to CXS 210-1999 only if they are destined for deepfrying. There is one antifoaming agent listed in FC 02.1.2: polydimethylsiloxane (900a).

A new note should be introduced for polydimethylsiloxane (900a) in Tables 1 and 2 of GSFA indicating "for use only in oils for deepfrying in products conforming to CXS 210-1999".

4. The use of ASCORBYL ESTERS, butylated hydroxyanisole (INS 320), butylated hydroxytoluene (INS 321), isopropyl citrates (INS 384), polydimethylsiloxane (900a), propyl gallate (INS 310), thiodipropionates and tertiary butylhydroquinone (INS 319) is not excluded in virgin and cold pressed oils and products conforming to the *standard for Olive Oils and Olive Pomace Oils* (CXS 33-1981) in Tables 1 and 2 of GSFA.

Note 277 (Excluding virgin and cold pressed oils and products conforming to the standard for Olive Oils and Olive Pomace Oils (CXS 33-1981)) should be introduced in Tables 1 and 2 of GSFA for the above provisions.

Provided that the above issues are addressed as proposed, the current provisions in Section 4 of CXS 210-1999 could be replaced by the following provision ensuring the alignment with GSFA:

Antioxidants, anti-foaming agents and emulsifiers used in accordance with Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in food category 02.1.2 (Vegetable oils and fats) and its parent food categories are acceptable for use in foods conforming to this Standard.

The flavourings used in products covered by this standard should comply with the Guidelines for the Use of Flavourings (CXG 66-2008).

STANDARD FOR NAMED ANIMAL FATS (CXS 211-1999)

Commodities conforming to CXS 211-1999 fall in the GSFA food category (FC) 02.1.3 (Lard, tallow, fish oil, and other animal fats).

The current provisions in section 4 of CXS 211-1999 list individual food additives associated with the following functional classes:

- colours
- antioxidants (including antioxidant synergists)

Concerning Table 3 of GSFA, FC 02.1.3 is listed in the Annex to Table 3. Therefore, food additive provisions implied by Table 3 do not apply to commodities conforming to CXS 211-1999.

The following issues will need to be addressed in aligning the food additive provisions in section 4 of CXS 211-1999 with the provisions of Tables 1 and 2 of GSFA:

1. The following food additives are listed under FC 02.1.3 in GSFA without having Note XS211 but are not listed in section 4 of CXS 211-1999:

INS No.	Additive	Maximum Use Level
472e	Diacetyltartaric and fatty acid esters of glycerol	10000 mg/kg
143	Fast green FCF	GMP
314	Guaiac resin	1000 mg/kg
132	Indigotine (Indigo carmine)	300 mg/kg
900a	Polydimethylsiloxane	10 mg/kg
432-436	POLYSORBATES	5000 mg/kg
477	Propylene glycol esters of fatty acids	10000 mg/kg
110	Sunset yellow FCF	300 mg/kg
484	Stearyl citrate	GMP
388, 389	THIODIPROPIONATES	200 mg/kg

Note XS211 (Excluding products conforming to the Standard for Named Animal Fats (CODEX STAN 211-1999)) should be introduced for the above provisions in Tables 1 and 2 of GSFA.

2. The following food additives listed in section 4 of CXS 211-1999 under the functional class colours and antioxidants are not listed under FC 02.1.3 in GSFA:

INS No.	Additive	Maximum Use Level
100(i)	Curcumin	5 mg/kg
160b(i)	Annatto extracts, bixin-based	10 mg/kg (as bixin)
331(i)	Sodium dihydrogen citrate	GMP
331(iii)	Trisodium citrate	GMP

The provisions to include curcumin, sodium dihydrogen citrate and trisodium citrate in Tables 1 and 2 of GSFA are currently at step 7. There is no provision in the step procedure to include annatto extracts, bixin-based, in Tables 1 and 2 of GSFA.

Provisions to include the above food additive provisions in Tables 1 and 2 of GSFA should be advanced for adoption with a note restricting their use to products conforming to CXS 211-1999.

3. **A new note should be introduced for curcumin (INS100(i)), beta-carotenes (vegetable) (INS160a(ii)), carotenoids (INS160a(i),a(iii),e,f), annatto extracts, bixin-based (160b(i) indicating**

"to be used in commodities conforming to CXS 211-1999 only for the purpose of restoring natural colour lost in processing.

4. Section 4 of CXS 211-1999 provides for a maximum level of 25 mg/kg for beta-Carotenes (vegetable) (INS 160a(ii)) while GSFA sets a maximum level of 1,000 mg/kg.

   A new note should be introduced for beta-carotenes (vegetable) in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 25 mg/kg".

   Section 4 of CXS 211-1999 provides for a maximum level of 100 mg/kg for Propyl gallate (INS 310) while GSFA sets a maximum level of 200 mg/kg.

   A new note should be introduced for propyl gallate in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 100 mg/kg".

   Section 4 of CXS 211-1999 provides for a maximum level of 120 mg/kg for tertiary butyl hydroquinone (TBQH) (INS 319) while GSFA sets a maximum level of 200 mg/kg.

   A new note should be introduced for tertiary butyl hydroquinone in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 120 mg/kg".

   Section 4 of CXS 211-1999 provides for a maximum level of 175 mg/kg for butylated hydroxyanisole (BHA) (INS 320) while GSFA sets a maximum level of 200 mg/kg.

   A new note should be introduced for butylated hydroxyanisole in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 175 mg/kg".

   Section 4 of CXS 211-1999 provides for a maximum level of 75 mg/kg for butylated hydrotoluene (BTA) (INS 321) while GSFA sets a maximum level of 200 mg/kg.

   A new note should be introduced for butylated hydroxytoluene in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 75 mg/kg".

   Section 4 of CXS 211-1999 provides that any combination of gallates, BHA, BHT, or TBHQ should not to exceed 200 mg/kg within individual limits.

   Note 133 should be introduced for propyl gallate, BHA, BHT and TBHQ in Tables 1 and 2 of GSFA.

   Section 4 of CXS 211-1999 provides for a maximum level of 100 mg/kg for isopropyl citrates (INS 384) while GSFA sets a maximum level of 200 mg/kg.

   A new note should be introduced for Isopropyl citrates in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 211-1999 at 100 mg/kg".

Provided that the above issues are addressed as proposed, the current provisions in Section 4 of CXS 211-1999 could be replaced by the following provision ensuring the alignment with GSFA:

Colours and antioxidants used in accordance with Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in food category 02.1.3 (Lard, tallow, fish oil, and other animal fats) and its parent food categories are acceptable for use in foods conforming to this Standard.

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

Commodities conforming to CXS 19-1981 fall in the GSFA food category (FC) 02.1 (Fats and oils essentially free from water). Food additive provisions are laid down in subcategories 02.1.1 (Butter oil, anhydrous milkfat, ghee), 02.1.2. (Vegetable oils and fats) and 02.1.3 (Lard, tallow, fish oil, and other animal fats).

The current provisions in section 3 of CXS 19-1981 list individual food additives associated with the following functional classes:

- colours
- antioxidants (including antioxidant synergists)
- anti-foaming agents

According to section 3 of CXS 19-1981, no food additives are permitted in virgin or cold pressed oils. No colours are permitted in vegetable oils covered by this Standard.

Concerning Table 3 of GSFA, FC 02.1.1, FC 02.1.2 and FC 02.1.3 are listed in the Annex to Table 3. Therefore, food additive provisions implied by Table 3 do not apply to commodities conforming to CXS 19-1981.

As regards colours, the current food additive provisions in section 3 of CXS 19-1981 are identical to those in section 4 of Standard for Named Animal Fats (CXS 211-1999).

As regards antioxidants and anti-foaming agents, the current food additive provisions in section 3 of CXS 19-1981 are identical to those in section 4 of Standard for Named Vegetable Oils (CXS 210-1999).

Food additive provisions of FC 02.1.1 are covered by food additive provisions of section 3 of CXS 19-1981.

The following issues will need to be addressed in aligning the food additive provisions in section 3 of CXS 19-1981 with the provisions of Tables 1 and 2 of GSFA:

1. The following food additives are listed under FC 02.1.2 and 02.1.3 in GSFA but are not listed in section 3 of CXS 19-1981 (there is no additive in FC 02.1.1 which is not listed in CXS 19-1981):

INS No.	Additive	Maximum Use Level
472e	Diacetyltartaric and fatty acid esters of glycerol	10000 mg/kg
143	Fast green FCF	GMP
314	Guaiac resin	1000 mg/kg
132	Indigotine (Indigo carmine)	300 mg/kg
900a	Polydimethylsiloxane	10 mg/kg
432-436	Polysorbates	5000 mg/kg
477	Propylene glycol esters of fatty acids	10000 mg/kg
110	Sunset yellow FCF	300 mg/kg
484	Stearyl citrate	GMP

Note XS19 (Excluding products conforming to the Standard for Edible Fats and Oils Not Covered by Individual Standards (CXS 19-1981)) should be introduced for the above provisions in Tables 1 and 2 of GSFA.

2. The following food additives listed in section 3 of CXS 19-1981 under functional the class colours and antioxidants are not listed under FC 02.1.3 in GSFA:

INS No.	Additive	Maximum Use Level
100(i)	Curcumin	5 mg/kg
160b(i)	Annatto extracts, bixin-based	10 mg/kg (as bixin)
331(i)	Sodium dihydrogen citrate	GMP
331(iii)	Trisodium citrate	GMP

The provisions to include curcumin, sodium dihydrogen citrate and trisodium citrate in Tables 1 and 2 of GSFA are currently at step 7. There is no provision in the step procedure to include annatto extracts, bixin-based, in Tables 1 and 2 of GSFA.

Provisions to include the above food additive provisions in Tables 1 and 2 of GSFA should be advanced for adoption with a note restricting their use to products conforming to CXS 19-1981.

3. **A new note should be introduced for curcumin (INS100(i)), beta-carotenes (vegetable) (INS160a(ii)), carotenoids (INS160a(i),a(iii),e,f), annatto extracts, bixin-based (160b(i) indicating "to be used in commodities conforming to CXS 19-1981 only for the purpose of restoring natural colour lost in processing.**

4. Section 3 of CXS 19-1981 provides for a maximum level of 300 mg/kg singly or in combination for tocopherol, d-alpha (INS 307a), tocopherol concentrate, mixed (INS 307b) and tocopherol, dl-alpha (307c) while GSFA FC 02.1.1 sets a maximum level of 500 mg/kg.

A new note should be introduced for tocopherols in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 300 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 25 mg/kg for beta-carotenes (vegetable) (INS 160(ii)) while GSFA sets a maximum level of 1,000 mg/kg.

A new note should be introduced for beta-carotenes (vegetable) in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 25 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 100 mg/kg for propyl gallate (INS 310) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for propyl gallate in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 100 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 120 mg/kg for tertiary butyl hydroquinone (TBQH) (INS 319) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for tertiary butyl hydroquinone in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 120 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 175 mg/kg for butylated hydroxyanisole (BHA) (INS 320) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for butylated hydroxyanisole in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 175 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 75 mg/kg for butylated hydrotoluene (BTA) (INS 321) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for butylated hydroxytoluene in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 75 mg/kg".

Section 3 of CXS 19-1981 provides for a maximum level of 100 mg/kg for isopropyl citrates (INS 384) while GSFA sets a maximum level of 200 mg/kg.

A new note should be introduced for isopropyl citrates in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 19-1981 at 100 mg/kg".

5. Antifoaming agents are technologically justified in products conforming to CXS 19-1981 only if they are destined for deepfrying. There is one antifoaming agent listed in FC 02.1.2: polydimethylsiloxane (900a).

   A new note should be introduced for polydimethylsiloxane (900a) in Tables 1 and 2 of GSFA indicating "for use only in oils for deepfrying in products conforming to CXS 19-1981".

Provided that the above issues are addressed as proposed, the current provisions in Section 3 of CXS 19-1981 could be replaced by the following provision ensuring the alignment with GSFA:

Colours, antioxidants and antifoaming agents used in accordance with Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in food category 02.1, its parent food category, and its sub-categories are acceptable for use in foods conforming to this Standard.

The flavourings used in products covered by this standard should comply with the Guidelines for the Use of Flavourings (CXG 66-2008).

STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS (CXS 33-1981)

The food additive provisions in section 4 of CXS 33-1981 only allow the addition of alpha-tocopherols (d-alpha tocopherol (INS 307a); mixed tocopherol concentrate (INS 307b); dl-alpha-tocopherol (INS 307c)) to refined olive oil, olive oil, refined olive-pomace oil and olive-pomace oil for the specific purpose of restoring natural tocopherol lost in the refining process with the concentration of alpha-tocopherol in the final product not exceeding 200 mg/kg.

The above provision is reflected in food additive provisions of Table 2 for FC 02.1.2 (Vegetable oils and fats) where there is note 357 for tocopherols indicating: "Except for use in refined olive oil, olive oil, refined olive-pomace oil and olive-pomace oil at 200 mg/kg to restore natural tocopherol lost in production."

In food additive provisions of Table 2 for FC 02.1.2 there is note 277 (Excluding virgin and cold pressed oils and products conforming to the standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981)) for certain antioxidants (but not all). In addition, there is note XS33 (Excluding products conforming to the

standard for Olive Oils and Olive Pomace Oils (CODEX STAN 33-1981)) for tricalcium citrate (INS 333(ii).and tripotassium citrate (INS 333(iii).

In order to replace the current food additive provisions in Section 4 of CXS 33-1981 with a reference to FC 02.1.2 of GSFA, note XS33 should be introduced to all food additive provisions in FC 02.1.2 with the exception of alpha-tocopherols (d-alpha tocopherol (INS 307a); mixed tocopherol concentrate (INS 307b); dl-alpha-tocopherol (INS 307c)). In addition, it is proposed to replace Note 277 by notes 356 (Excluding virgin or cold pressed oils) and XS33.

Provided that the above action is completed as proposed, the current provisions in Section 4 of CXS 33-1981 could be replaced by the following provision ensuring the alignment with GSFA:

Food additives used in accordance with Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in food category 02.1.2 (Vegetable oils and fats) and its parent food categories are acceptable for use in foods conforming to this Standard.

STANDARD FOR FAT SPREADS AND BLENDED SPREADS (CXS 256-2007)

Commodities conforming to CXS 256-2007 fall in the GSFA food category (FC) 02.2.2 (Fat spreads, dairy fat spreads and blended spreads).

The current provisions in section 4 of CXS 256-2007 list individual food additives associated with the following functional classes:

- acidity regulators
- antifoaming agents
- antioxidants
- colours
- emulsifiers
- preservatives
- stabilizers
- thickeners

Concerning Table 3 of GSFA, the current provision in section 4 of CXS 256-2007 reads:

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

The following issues will need to be addressed in aligning the food additive provisions in section 4 of CXS 256-2007 with the provisions of Tables 1 and 2 of GSFA:

1. The following food additives listed under FC 02.2.2 in GSFA are not listed in section 4 of CXS 256-2007:

INS No.	Additive	Maximum Use Level
161g	Canthaxanthin	15 mg/kg
 214 218	HYDROXBENZOATES, PARA- Ethyl para-hydroxybenzoate Methyl para-hydroxybenzoate	300 mg/kg
243	Lauric arginate ethyl ester	200 mg/kg
473a	Sucrose oligoesters, type I and type II	10,000 mg/kg

A new Note XS256 for consistency with the Guidance on alignment 'Excluding products conforming to the Standard for Fat Spreads and Blended Spreads (CODEX STAN 256-2007)' should be introduced for INS 161g, INS 214, 218 and INS 243 in Tables 1 and 2 of GSFA replacing the current Note 215. For INS 473a no amendment of GSFA is suggested since the additive is authorised singly or in combination with INS 473 and 474 thus it is considered as acceptable for the use in CSX 256-2007.

2. The following food additives listed in section 4 of CXS 256-2007 under functional class colours are not listed under FC 02.2.2 in GSFA:

INS No.	Additive	Maximum Use Level
100(i)	Curcumin	10 mg/kg,
150b	Caramel II	500 mg/kg
160b(i)	Annatto extracts, bixin-based	100 mg/kg (as bixin)

The provisions to include curcumin and caramel II in Tables 1 and 2 of GSFA are currently at step 4. However, a maximum use level of 20,000 mg/ kg is recommended for caramel II. There is no provision in the step procedure to include annatto extracts, bixin-based, in Tables 1 and 2 of GSFA.

The provisions to include the above provisions in Tables 1 and 2 of GSFA should be advanced for adoption with a note restricting their use to products conforming to CXS 256-2007 and with a note for caramel II indicating "except for use in products conforming to CXS 256-2007 at 500 mg/kg.

Note: CCFA50 recommended withdrawing the provisions for sodium sorbate, (INS 201) potassium hydrogen malate (INS 351(i), potassium malate (INS 351(ii), monosodium tartrate (INS 336(i), dipotassium tartrate (INS 336(ii) from CXS 256-2007 (see paras 48(vi) and 134(vii), REP18/FA). It is observed that INS 351(i) and INS 351(ii) are not included in CXS 256-2007 and that sorbates and tartrates will be subject to the food additives listed under these groups in the GSFA after the alignment has been completed (this in practice implies that those additives will not be permitted/ will be withdrawn from CXS 256-2007 after the alignment).

3. Section 4 of CXS 256-2007 provides for a maximum use level of 1,000 mg/kg for phosphates (as phosphorus) while GSFA sets a maximum use level of 2,200 mg/kg for phosphates (as phosphorus).

A new note should be introduced for phosphates in Tables 1 and 2 of GSFA indicating "except for use in products conforming to CXS 256-2007 at 1,000 mg/kg".

A new note should be introduced for sorbates and benzoates in Tables 1 and 2 of GSFA indicating "For use in products conforming to the Standard for Fat Spreads and Blended Spreads benzoates and sorbates singly or in combination. If used in combination, the combined use shall not exceed 2000 mg/kg of which the benzoic acid portion shall not exceed 1000 mg/kg".

For thermally oxidized soya bean oil interacted with mono- and diglycerides of fatty acid (INS 479) a new note should be introduced indicating "in fat emulsions for frying or baking purpose, only")

Provided that the above issues are addressed as proposed, the current provisions in Section 4 of CXS 256-2007 could be replaced by the following provision ensuring the alignment with GSFA:

Acidity regulators, antifoaming agents, antioxidants, colours, emulsifiers, flavour enhancers, packing gases, preservatives, stabilizers and thickeners used in accordance with Tables 1 and 2 of the General Standard for Food Additives (CXS 192-1995) in food category 02.2.2 (Fat spreads, dairy fat spreads and blended spreads) and its parent food categories or listed in Table 3 of the General Standard for Food Additives are acceptable for use in foods conforming to this Standard.

The flavourings used in products covered by this standard should comply with the Guidelines for the Use of Flavourings (CXG 66-2008).

Part D: Technological justification for use of emulsifiers in FC 02.1.2

Polyglycerol esters of fatty acids (INS 475), sorbitan esters of fatty acids (INS 491-495) and stearoyl lactylates (INS 481(i)-482(i)) are emulsifiers used for anti-crystallization purposes in cooking oil. Cooking oil is liquid in hot climates, but will crystallize during storage on the shelves of air-conditioned supermarkets. Although crystallization is reversible and temperature-dependent, consumers tend to interpret the crystallized oil as spoiled. Emulsifiers can postpone the onset of the crystallization process and thereby enhance consumer perception and prevent food waste.

Polyglycerol esters of fatty acids (INS 475) are used for maintaining the solid state condition of oils. Solid oils such as palm oil could be partially melted and separated into solid parts and liquid parts under higher ambient temperatures, and the use of this emulsifier is to help to maintain the solid state of oil.

Sucrose esters of fatty acids (INS 473) is used as an emulsifier in cooking oils for anti-spattering purposes.

INS No.	Additive	Maximum Use Level
475	Polyglycerol esters of fatty acids	10,000 mg/kg
491- 495	Sorbitan esters of fatty acids	750 mg/kg
481(i) 482(i)	Stearoyl lactylates	300 mg/kg
473	sucrose esters of fatty acids	2,000 mg/kg

APPENDIX IV

METHODS OF ANALYSIS FOR PROVISIONS IN CXS 33-1981; CXS 210-1999 AND CXS 234-1999
(For endorsement by CCMAS)

Part A: Related to Agenda Item 5.2

REPLACEMENT OF ACID VALUE WITH FREE FATTY ACIDS FOR VIRGIN PALM OIL AND INCLUSION OF FREE FATTY ACIDS FOR CRUDE PALM KERNEL OIL

(CONSEQUENTIAL AMENDMENT TO CXS 210-1999, APPENDIX, SECTION 5: METHODS OF ANALYSIS AND SAMPLING, TO INCLUDE AN ADDITIONAL METHOD FOR THE DETERMINATION OF ACIDITY)

(Proposed changes to CXS 234 -1999)

Commodity Standard	***Provision***	***Method***	***Principle***	***Type***
Named Vegetable Oils (CXS 210-1999)	**Acidity:** acid value	ISO 660 or AOCS Cd 3d-63 **or AOCS Ca 5a-40**	**Titrimetry**	**I**
	free fatty acids	**ISO 660 or AOCS Ca 5a-40**	**Titrimetry**	**I**

Part B: Related to Agenda Item 4 and Agenda Item 13

PROPOSED REVISION TO THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS (CXS 234-1999), SECTION 8. THE METHODS OF ANALYSIS AND SAMPLING (replacement of obsolete methods)(see para. 141)

Determination of the fatty acid composition and trans fatty acid content;

According to COI/T.20/Doc. No 33 “Determination of fatty acid methyl esters by gas chromatography”

Determination of the sterol content and alcoholic compounds (aliphatic alcohols and Erytrodiol +Uvaol)

According to COI/T.20/Doc. No 26 “Determination of the sterol content and alcoholic compounds by capillary gas chromatography”.

Determination of the free acidity

According to COI/T.20/Doc. No 34 “Determination of free fatty acids, cold method”.

Determination of the peroxide value

According to COI/T.20/Doc. No 35 “Determination of the peroxide value”

Determination of the content of waxes

According to COI/T.20/Doc. No 28 “Determination of the content of waxes, fatty acid methyl esters and fatty acid ethyl esters by capillary gas chromatography“.

APPENDIX V

PROPOSED DRAFT REVISION TO THE STANDARD FOR OLIVE OILS AND OLIVE POMACE OILS

(CXS 33-1981):

REVISION TO SECTIONS 3, 8 AND APPENDIX

(For Information)

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

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

Virgin olive oils are the oils 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 have not undergone any treatment other than washing, decanting, centrifuging and filtration.

Olive-pomace oil is the oil obtained by treating olive pomace with solvents other than halogenated solvents or by other physical treatments, 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

Extra virgin olive oil: virgin olive oil with a free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams and whose other physicochemical and organoleptic characteristics correspond to those laid down for this category.

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 whose other physicochemical and organoleptic characteristics correspond to those laid down for this category.

Refined olive oil: olive oil obtained from virgin olive oils by refining methods (including methods which result in the complete or partial removal of chemical compounds responsible for organoleptic descriptors) 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 and its other characteristics correspond to those laid down for this category[1].

Olive oil composed of refined olive oil and virgin olive oils: oil consisting of a blend of refined olive oil and virgin olive oils suitable for human consumption. It has a free acidity, expressed as oleic acid, of not more than 1.0 gram per 100 grams and its other corresponding [physicochemical and organoleptic] characteristics.

Refined olive-pomace oil: oil obtained from crude olive-pomace oil 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 and its other corresponding characteristics[1].

[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]: oil consisting of a blend of refined olive-pomace oil and virgin olive oils. It has a free acidity, expressed as oleic acid, of not more than 1.0 gram per 100 grams and its other corresponding [physicochemical and organoleptic] characteristics[2].

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

	Median of the defect	Median of the fruity attribute
Extra virgin olive oil	0.0	>0.0
Virgin olive oil	[≤ 2.5] [**≤3.5**]	>0.0

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

[[2]The country of retail sale may require a more specific designation]

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

	Virgin olive oils	*Olive oil composed of refined olive oil and virgin olive oils* Refined olive oil	[Olive-pomace oil] *[Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]* Refined olive-pomace oil
Fatty acid			
C14:0	0.0 – 0.03	0.0 – 0.03	0.0 – 0.03
C16:0	[7.0]7.5 – 20.0	[7.0]7.5 – 20.0	[7.0]7.5 – 20.0
C16:1	0.3 – 3.5	0.3 – 3.5	0.3 – 3.5
C17:0	0.0 – 0.4	0.0 – 0.4	0.0 – 0.4
C17:1	0.0 – 0.6	0.0 – 0.6	0.0 – 0.6
C18:0	0.5 -5.0	0.5 - 5.0	0.5 – 5.0
C18:1	[53.0]55.0 – 83.0	[53.0]55.0 – 83.0	[53.0]55.0 – 83.0
C18:2	2.5 – 21.0	2.5 – 21.0	2.5 – 21.0
C18:3[3]			
C20:0	0.0 – 0.6[0.8]	0.0 – 0.6[0.8]	0.0 – 0.6[0.8]
C20:1	0.0 – 0.5	0.0 – 0.5	0.0 – 0.5
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 acid			
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]Pending the results of IOC (International Olive Council) survey and further considerations by the Committee on Fats and Oils. National limits may remain in place.

Content of 2-glyceryl monopalmitate (%)

Virgin olive oils	**C16:0≤14.0 %; 2P≤0.9 %**
Olive oil composed of refined olive oil and virgin olive oils	**C16:0>14.0 %, 2P≤1.0 %**
Refined olive oil	**C16:0≤14.0 %; 2P≤0.9 %** **C16:0>14.0 %, 2P≤1.1 %**
Refined olive-pomace oil	**≤1.4%**
[Olive-pomace oil] *[Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]*	**≤1.2 %**

Sterol and triterpene dialcohol composition

Desmethylsterol composition (% total sterols)

Cholesterol	≤ 0.5
Brassicasterol	≤ 0.1 for olive oils ≤ 0.2 for olive-pomace oils
Campesterol	≤ 4.0[(a)]
Stigmasterol	< campesterol

Δ7-stigmastenol	≤ 0.5[(b)]
Apparentβ-sitosterol(c)	≥ 93.0

(a)When an authentic oil naturally has a campesterol level >4.0% and ≤ 4.5%, it is considered virgin or extra virgin olive oil if the stigmasterol level is ≤ 1.4% and the delta-7-stigmastenol level is ≤ 0.3% and stigmastadienes is ≤0.05 mg/kg. The other parameters shall meet the limits set out in the standard.

[(b) For virgin olive oils If the value is >0,5 y ≤0,8%, campesterol must be ≤3,3, apparent β-sitosterol/(campesterol+Δ7-stigmastenol) ≥25, stigmasterol ≤1,4 and ΔECN_{42} ≤|0,1|. For refined olive pomace oils values >0,5 and ≤0,7% then stigmasterol ≤1,4% and ΔECN_{42} ≤ 0.4.]

(c) Chromatographic peak composed by: Δ5,23-stigmastadienol+clerosterol+β-sitosterol+sitostanol+Δ5-avenasterol+Δ5,24-stigmastadienol.

Value for total sterol content

Virgin olive oils Refined olive oil Olive oil composed of refined olive oil and virgin olive oils	≥1,000 mg/kg
[Olive-pomace oil] *[Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]*	≥1,600 mg/kg
Refined olive-pomace oil	≥1,800 mg/kg

Erythrodiol and uvaol content (% total sterols)

Virgin olive oils Olive oil composed of refined olive oil and virgin olive oils Refined olive oil	≤ 4.5
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils] Refined olive-pomace oil	>4.5

Waxes content

	Level
Virgin olive oils	≤150 mg/kg (d)
Olive oil composed of refined olive oil and virgin olive oils Refined olive oil	≤ 350 mg/kg(e)
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils] Refined olive-pomace oil	>350 mg/kg(e)

(d) Sum of $C_{42}+C_{44}+C_{46}$

(e) Sum of $C_{40}+C_{42}+C_{44}+C_{46}$

ΔECN42 - Maximum difference between the actual and theoretical ECN 42 triglyceride content

Virgin olive oils	|0.2|
Olive oil composed of refined olive oil and virgin olive oils Refined olive oil	|0.3|
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils] Refined olive-pomace oil	|0.5|

Stigmastadienes content

Virgin olive oils	≤ 0.05 mg/kg

Peroxide value (milliequivalents of active oxygen/kg oil)

Virgin olive oils	≤ 20.0
Refined olive oil	≤ 5.0
Olive oil composed of refined olive oil and virgin olive oils	≤ 15.0

Refined olive-pomace oil	≤ 5.0
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	≤ 15.0

Absorbancy in the ultraviolet region ($K_{1cm}^{\%}$)

	270nm or 268nm	ΔK(5)
Extra virgin olive oil	≤ 0.22	≤ 0.01
Virgin olive oil	≤ 0.25	≤ 0.01
Refined olive oil	≤1.25	≤ 0.16
Olive oil composed of refined olive oil and virgin olive oils	≤1.15	≤ 0.15
Refined olive-pomace oil	≤ 2 .00	≤ 0.20
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	≤ 1.70	≤ 0.18

(5)

$$\Delta K_{270} = K_{270} - \frac{(K_{266} + K_{274})}{2}$$

$$\Delta K_{268} = K_{268} - \frac{(K_{264} + K_{272})}{2}$$

[Others

Fatty acid ethyl esters – FAEE (mg/kg)

Extra virgin olive oil **≤ 35]**

4. FOOD ADDITIVES

4.1 Virgin olive oils

No additives are permitted in these products.

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

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

5. CONTAMINANTS

5.1 The **products** covered by this Standard shall comply with the Maximum Levels of the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1995).

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 content of each halogenated solvent	0.1 mg/kg
Maximum content of the sum of all halogenated solvents	0.2 mg/kg

6. HYGIENE

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 *General Principles of Food Hygiene* (CXC 1-1969), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

The products should comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).

7. LABELLING

The products shall be labelled in accordance with the *General Standard for the Labelling of Prepackaged Foods* (CXS 1–1985).

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 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

All the methods referenced in this appendix must be applied in its last revision

Sampling

According to ISO 5555

Sample preparation

According to **ISO 661Determination of organoleptic characteristics**

According to COI/T.20/Doc. nº 15.

Determination of free acidity

According to ISO 660 or AOCS Cd 3d-63 (03) or COI/T.20/Doc.n°34.

Determination of fatty acid composition

According to COI/T.20/Doc. nº 24 or ISO 5508:1990 and AOCS Ch2-91 (02) or AOCS Ce 1f-96(02). For Sample preparation ISO 5509:2000 or AOCS Cc 2-66(97)

Determination of *trans* fatty acid content

According to COI/T.20/Doc.n°17 or ISO 15304:2002 or AOCS Ce 1f-96(02)

Determination of wax content

According to COI/T.20/Doc. nº 18 or AOCS Ch 8-02 (02)

Determination of peroxide value

According to ISO 3960 or AOCS Cd 8b-90 (03) or COI/T.20/Doc.n°35.

Determination of absorbency in the ultraviolet region

According to COI/T.20/Doc. nº 19 or ISO 3656 or AOCS Ch 5-91 (01).

Determination of the content of fatty acid ethyl esters - FAEE

According toCOI/T.20/Doc. N° 28

Determination of fatty acid composition and its *trans* isomers

According to COI/T.20/Doc. nº 33 and AOCS Ch2-91 (02) or AOCS Ce 1f-96(02) or ISO 12966-2 or ISO 12966-4

Determination of sterol composition and content and erythrodiol and uvaol

According to COI/T.20/Doc. nº 30 or ISO 12228-2 or AOCS Ch 6-91(97).

Determination of waxes content

According to COI/T.20/Doc. nº 28 or AOCS Ch 8-02 (02)

Determination of stigmastadienes

According to COI/T.20/Doc. nº 11 or ISO 15788-1 or ISO 15788-2 or AOCS Cd 26-96 (03).

Calculation of the difference between the actual and theoretical ECN 42 triglyceride content

According to COI/T.20/Doc. nº 20 or AOCS Ce 5b-89 (97).

Determination of 2-glyceryl monopalmitate content

According toCOI/T.20/Doc. N°23

Determination of alpha-tocopherol

According to ISO 9936

Detection of traces of halogenated solvents

According to ISO 16035]

APPENDIX

OTHER QUALITY AND COMPOSITION FACTORS

These quality and composition factors are supplementary information to the essential composition and quality factors of the standard. A product, which meets the essential quality and composition factors but does not meet these supplementary factors, may still conform to the standard.

1. **QUALITY CHARACTERISTICS**

Moisture and volatile matter:	
Virgin olive oils	≤0.2 %
Refined olive oil	≤0.1 %
Olive oil composed of refined olive oil and virgin olive oils	≤0.1 %
Refined olive-pomace oil	≤0.1 %
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	≤0.1 %
Insoluble impurities:	
Virgin olive oils	≤0.10 %
Refined olive oil	≤0.05 %
Olive oil composed of refined olive oil and virgin olive oils	≤0.05 %
Refined olive-pomace oil	≤0.05 %
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	≤0.05 %
Trace metals:	
Iron (Fe)	≤3.0 mg/kg
Copper (Cu)	≤0.1 mg/kg
Organoleptic characteristics:	
Virgin olive oils: See Section 3 of Standard.	

Others:

	Odour	Taste	Colour
Refined olive oil	acceptable[(*)]	acceptable[(*)]	light yellow
Olive oil composed of refined olive oil and virgin olive oils	good[(**)]	good[(**)]	light yellow to green
Refined olive-pomace oil	acceptable[(*)]	acceptable[(*)]	light yellow to brownish yellow
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	good[(**)]	good[(**)]	light yellow to green

[(*)*Acceptable: with no rancidity symptoms*] [without detectable rancidity]

[(**)*Good: fruity and with no rancidity symptoms*]

2. CHEMICAL AND PHYSICAL CHARACTERISTICS

[Relative density (20ºC/water at 20 ºC)	0.910 - 0.916**]**
[Refractive index (n_D^{20})	
Virgin olive oils	
Refined olive oil	1.4677-1.4705
Olive oil composed of refined olive oil and virgin olive oils	
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	1.4680-1.4707**]**
Saponification value (mg KOH/g oil):	
Virgin olive oils	
Refined olive oils	184-196
Olive oil composed of refined olive oil and virgin olive oils	
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	182-193
[Iodine value (Wijs method)	
Virgin olive oils	
Refined olive oils	75-94
Olive oil composed of refined olive oil and virgin olive oils	
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	75-92**]**
Unsaponifiable matter:	
Virgin olive oils	
Refined olive oil	≤15 g/kg
Olive oil composed of refined olive oil and virgin olive oils	
[Olive-pomace oil] [Olive-pomace oil composed of refined olive pomace oil and virgin olive oils]	≤30 g/kg
Absorbancy in ultra-violet K232	
Extra virgin olive oil	≤ 2.50[4]
Virgin olive oil	≤ 2.60

[4]The country of retail sale may require compliance with these limits when the oil is made available to the end consumer.

[4. METHODS OF ANALYSIS AND SAMPLING

All the methods referenced in this appendix must be applied in its last revision

Determination of moisture and volatile matter

According to ISO 662

Determination of insoluble impurities in light petroleum

According to ISO 663

Detection of trace metals (iron, copper)

According to ISO 829 (graphite furnace) or ISO 21033 (Inductively coupled plasma optical emission spectroscopy)

Determination of relative density

According to ISO 6883 or AOCS Cc 10c-95

Determination of refractive index

According to ISO 6320.

Determination of saponification value

According to ISO 3657 or AOCS Cd 3-25 (03).

Determination of iodine value

According to ISO 3961

Determination of unsaponifiable matter

According to ISO 3596 or ISO 18609 or AOCS Ca 6b-53 (01).

Determination of the absorbency in ultra-violet – K_{232}

According to COI/T.20/Doc. nº 19 or ISO 3656 or AOCS Ch 5-91 (01). **]**