codex alimentarius commission

FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

WORLD HEALTH
ORGANIZATION

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ALINORM 79/17

CODEX ALIMENTARIUS COMMISSION

Thirteenth Session, 3-14 December 1979

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

London, 4 - 8 December 1978

INTRODUCTION

1. The Codex Committee on Fats and Oils held its Tenth Session in London from 4 to 8 December 1978 under the chairmanship of Mr. A.W. Hubbard of the United Kingdom. The session was opened by Mr. R.F. Giles, Under-Secretary of the Ministry of Agriculture, Fisheries and Food, responsible for work on food standards, who welcomed the participants on behalf of the Government of the United Kingdom.

2. The session was attended by representatives from 30 countries and observers from 9 international organizations. The list of participants including officers from FAO and WHO and the Committee Secretariat is contained in Appendix I to this Report.

ADOPTION OF THE AGENDA

3. The Committee adopted the provisional agenda CX/FO 78/1.

MATTERS OF INTEREST ARISING FROM SESSIONS OF THE CODEX ALIMENTARIUS COMMISSION AND OTHER CODEX COMMITTEES

4. The Committee agreed that matters arising from the Twelfth Session of the Codex Alimentarius Commission, the 19th Session of the Joint FAO/WHO Committee of Government Experts on the Code of Principles concerning Milk and Milk Products, the 13th Session of the Joint ECE/Codex Alimentarius Group of Experts on Standardization of Fruit Juices (CX/FO 78/12), the 15th Session of the Codex Committee on Food Hygiene, and the 12th Session of the Codex Committee on Food Additives (reported on verbally by the FAO Representative) should be dealt with when the relevant items were discussed.

5. It was reported that the Commission at its 12th Session had reviewed its programme of work and its working procedures in order to determine whether they still responded to the needs of Member countries. It had been decided to amend Work Priority Criteria by adding a provision concerning products with an "international or regional market potential". It had been also decided to give governments the opportunity to comment specifically on the implications which the Proposed Draft Standards may have for their economic interests, and the Procedure for the Elaboration of Codex Standards was amended at Steps 3, 5 and 6 to request government comments on all aspects, including possible implications of the Proposed Draft Standards for their economic interests.

6. The delegation of the United States proposed that in view of possible complexities arising out of the conclusions of the Committee on Food Additives about processing aids it would be useful if a working group be convened to consider the matter prior to full discussion of the subject under Item 13 of the Agenda. The proposal was supported by the delegations of Denmark, the Netherlands and others, it being agreed that a working group consisting of the U.S.A., Denmark, the Netherlands, the United Kingdom and France would deliberate and report its findings to the Committee for Item 13.

MATTERS OF DIRECT INTEREST TO THE COMMITTEE ARISING FROM THE REPORT OF THE FAO/WHO EXPERT CONSULTATION ON THE ROLE OF FATS AND OILS IN HUMAN NUTRITION (FAO Nutrition Paper No. 3)

7. The Committee had before it working papers CX/FO 78/2, CX/FO 78/2 Add. 1 and Conference Room Documents 1 and 4. The Chairman pointed out that whilst many countries had voiced objections and reservations about the bases for recommendations and its general content, the Fats and Oils Committee was not the forum for discussing the report itself; these observations, however, could be sent to the relevant units of WHO and FAO. He thus reminded the Committee that only topics of direct relevance to the work of the Committee on Fats and Oils should be discussed.

Brassica-derived Oils

8. The Chairman, in summarizing comments received, noted that there was general support for a Standard on Low Erucic Acid Rapeseed Oil with a provision for a maximum of 5% erucic acid but that there was no support for inclusion in the General Standard for Edible Fats and Oils not covered by Individual Standards of a 5% erucic acid limit. The delegations of India, Japan, Norway, Sweden, United Kingdom and United States supported this summary. The delegation of Australia, although supporting the development of the Low Erucic Acid Rapeseed Oil Standard, pointed out that in general their legislation did not allow fats and oils to be marketed with greater than 5% erucic acid. The representative of the Commission of the European Communities informed the Committee that the legislation of the nine Member States of the EEC limited to 5% the amount of erucic acid in oils and fats (and mixtures) intended as such for human consumption, and in the fat component of compound foodstuffs. Delegates could therefore compare the differences between the scope of the Community legislation and that of the General Standard for Edible Fats and Oils not covered by Individual Standards. The Committee noted that the scope of the Codex General Standard was different from that of the EEC legislation and it was agreed that no limitation on erucic acid should be included in the General Standard.

Partially Hydrogenated Marine Oils

9. The Chairman noted that the comments received had not supported any limitation on the use of partially hydrogenated marine oils and that at the 9th Session there had been no support for the elaboration of a standard for marine oils. The Committee agreed with this view.

Processing

10. The delegation of Canada supported by the delegation of the United States considered that there was insufficient data on which to formulate a sound judgement. However, when this information was available the possibility of a code of practice concerning the commercial processing of oils and fats could be considered. The delegation of France commented that they did not allow processes of esterification and the delegation of Belgium considered that information on the removal of pesticides would be required if a study of processing conditions were to be carried out. It was agreed that the Committee Secretariat would contact Member Countries for information on current legislation and the results of experimental trials concerning processing techniques and when sufficient information was available would present a paper to the Committee for discussion with a view to a possible development of a code of practice should this be thought worthwhile.

Labelling

11. The delegation of the United States proposed that this topic which amounted to a form of nutritional labelling should not be discussed by the Committee on Fats and Oils as the next session of the Codex Committee on Food Labelling would be considering nutritional labelling as a whole and advice should be sought from that Committee. The delegations of Canada, the Netherlands, the Federal Republic of Germany and Sweden supported this view. The delegations of Australia and Sweden, however, did consider that total fat and contents of saturated fatty acids and polyunsaturated fatty acids should be labelled as necessary guidance to the consumer. The representative of FAO explained that prior to the next session of the Committee on Food Labelling three consultants would consider the question of nutritional labelling of all foods and prepare a working paper for the Committee on Food Labelling. It was possible that some "guideline recommendations" for nutritional labelling would be proposed which would then also be considered by individual Commodity Committees. The delegations of Belgium and France pointed out that all food products containing significant levels of fat would need to be considered in addition to those oil and fat products within the terms of reference of the Committee on Fats and Oils. The Chairman confirmed that this would be the case. The delegation of Norway stressed that the report of the FAO/WHO Consultation on the Role of Fats and Oils in Human Nutrition presented an expert consideration of the dietary implications of fats and oils in human nutrition whereas the aim of the Codex Standards was to give a proper description of foods to ensure their identity and quality to protect the consumer; this was agreed. The delegation of Japan commented that the technical difficulties of such extensive labelling (e.g. routine analysis) should not be underestimated.

12. The Committee agreed that the FAO Secretariat should ensure that the consultants and the Committee on Food Labelling should discuss items of direct concern to the Committee on Fats and Oils. These would include the questions of labelling total content and type of fat, saturated fatty acids, polyunsaturated fatty acids, fatty acid isomers and cholesterol as well as the analytical problems. The delegation of Greece suggested that to the list of points to be raised should be added the question of fully saturated glycerides.

CONSIDERATION OF THE REVISED TEXT OF THE GENERAL STANDARD FOR EDIBLE FATS AND OILS NOT COVERED BY INDIVIDUAL STANDARDS (CAC/RS 19-1969)

13. The Committee considered working paper CX/FO 78/3, Conference Room Documents 1 and 6, and the revised text of the above Standard as contained in Appendix II to ALINORM 78/17.

Scope (Section 1)

14. There was considerable discussion as to whether the Scope Section of the Standard was clear in its wording. The delegation of France proposed that an amendment be made to include explicitly edible virgin oils. The Committee agreed, however, that this would most easily be achieved by replacing the first two words of the second sentence ("It covers ...") by "It includes ...". This was acceptable to the delegation of France. Further discussion took place on the scope of the standard in particular the reference to "direct consumption". However, there seemed no strong support for the request of the delegation of Canada to remove this phrase and no further amendments to the Scope Section were agreed to by the Committee.

Descriptions (Section 2)

15. The delegation of France pointed out an error of translation in the French text of Section 2.2 where the reference to "filtrage" should read "filtration".

Essential Composition and Quality Factors (Section 3)

16. The delegation of France proposed the increasing of Acid Value for virgin fats and oils from the present 4 mg KOH/g to 6 mg KOH/g. They suggested that this would bring the General Standard more in line with the Standard for Olive Oil (Acid Value 6.6 mg KOH/g). However, the Committee decided that it would not be in the best interests of the consumer to increase the value above that in other individual oil standards. The delegation of Spain requested that a qualification to the reference to "heat" in Section 2.2 be included. They suggested "moderate heat" or "appropriate thermal conditions" would be more suitable. The Chairman reminded the delegation of Spain that this had been discussed at the 9th Session (ALINORM 78/17, paragraph 32) and that no modification to the reference to heat treatment had been advocated. The Chairman suggested that the delegation of Spain resubmit their comment in answer to the Secretariat's request for information on processing techniques (paragraph 10).

Food Additives (Section 4)

17. Several delegations expressed concern at the large number of additives allowed in this Section and were of the opinion that some of them should not be permitted in any one of the standards. The delegation of France stated that only those additives with a technological necessity should be allowed. The delegation of Switzerland agreed with this view as did the delegation of Egypt who also expressed concern over questions of toxicity. The delegation of Poland indicated that they allowed no synthetic additives. Reservations on particular additives were: colours - Federal Republic of Germany and Brazil; flavours - Federal Republic of Germany, France, Brazil (who was also opposed to the provision for flavours in the Standard), Switzerland and India; BHT - Federal Republic of Germany, France, Switzerland, India and Norway; BHA - Federal Republic of Germany; TBHQ - Federal Republic of Germany, Switzerland, Egypt, India and Sweden; ascorbyl palmitate and ascorbyl stearate - Thailand (allowed at 200 mg/kg); dilauryl thiodipropionate - Switzerland, France; isopropylcitrate mixture - Switzerland, France, Federal Republic of Germany; phosphoric acid - Switzerland and Federal Republic of Germany; antifoaming agent - Federal Republic of Germany, Brazil, Egypt, France and Sweden (unless at less than 2 mg/kg); oxystearin - Federal Republic of Germany, Egypt, France, Sweden and Switzerland. The delegation of Australia reaffirmed that TBHQ should be retained. After an intervention by the delegation of Brazil it was agreed that the reference in 4.5 to "silicone dioxide" should read "silicon dioxide".

18. The delegation of the United Kingdom supported by the delegations of the Netherlands, Canada and Denmark pointed out that this was a world-wide standard and it was unlikely that complete agreement could be reached on an additive list, but all entries had been endorsed or temporarily endorsed by the Codex Committee on Food Additives. Further in the event of a particular member disagreeing with a particular additive, that country could accept the list with a deviation. The Committee agreed that the list of additives be retained as drafted.

Contaminants (Section 5)

19. The delegation of Belgium considered that mycotoxins and pesticide residues in virgin oils should be included under this Section. The delegation of Canada agreed with this view. The Chairman pointed out that no FAO decision had been reached on the question of mycotoxins. On the question of pesticides the FAO representative informed the Committee of the work of the Joint FAO/WHO Food Contamination Monitoring Programme, Phase II which was collecting data on organo-chlorine pesticides in fats and oils. At the suggestion of the delegation of Norway the Chairman proposed that the Codex Committee on Pesticide Residues should be asked for advice on pesticides specifically in oils and fats. This was agreed.

20. The delegation of France suggested that the contaminants in Section 5.1 (matter volatile at 105°C), Section 5.2 (insoluble impurities) and Section 5.3 (soap content) should be subdivided with values for virgin oils separate and different from those for refined oils. The delegation of France suggested values for 5.1 of 0.2% (virgin) and 0.1% (refined); for 5.2 of 0.05% (virgin) and 0.01% (refined) and for 5.3 of 0.0% (virgin) and 0.005% (refined). The Committee decided that changes to 5.1 and 5.2 would be difficult (for analytical reasons and because these provisions were also similarly included in all other fat and oil standards). Whilst it was recognized that 5.3 was only relevant to refined oils it was agreed that it was not necessary to mention this in the standard.

Labelling

21. There was detailed discussion of the content and meaning of Section 7.1.1 (Name of the Food) stemming from the Irish delegation's doubts about references to edible oil and salad oil. It was made clear that the terms were not mandatory and only referred to mixtures which could be labelled with the generic names. The delegation of France had some doubts about this facility but would find it acceptable provided a complete list of ingredients was required.

(a) It was confirmed that a single oil could also be designated "edible oil" or "salad oil" but a declaration of type of oil would still be required in the list of ingredients.

(b) The delegation of the Netherlands expressed the view that mixtures involving less than 20% of any particular oil should indicate the actual percentage of that oil in the list of ingredients. In the case of other mixtures the oils need only be declared in descending order of proportion.

(c) The delegation of Sweden proposed that in the case of mixtures of fats or oils, the fat content of the product should be declared in g/100 g. Furthermore, the average content of saturated fatty acids and the average content of linoleic acid respectively should be declared as percentage of the total amount of fatty acids.

The Committee was generally satisfied with the wording once the situation had been clarified. The delegation of Canada expressed the view that the wording was perfectly satisfactory as it stood. It was therefore decided not to make any amendment to the draft Section.

22. The manner in which ingredients should be shown as required by Section 7.2.1 (List of Ingredients) was considered. Discussion on this matter was stimulated by the French delegation's desire to show ingredients in order of level of use, and the proposal of the delegation of the Netherlands that quantitative declarations should be made in cases where the consumer might be misled when names of ingredient oils were shown without such declarations. The practicality of attempting quantitative declarations was discussed when the delegation of Egypt and others drew attention to analytical problems in confirming declared proportions, and that mixtures were likely to vary for various commercial reasons which would be difficult to reflect on labels. Additionally, as the observer from International Association of Fishmeal Manufacturers (IAFMM) suggested, the merits of the proposals in relation to consumer interests were doubtful. The delegation of Australia also pointed out that flexibility was necessary and tolerances should be allowed if the proposals were introduced. The delegation of Norway felt it was not vital to require quantitative declarations. There was no clear consensus of opinion on the matter although it was agreed as suggested by the delegation of the United States that requirements for quantitative declarations had nutritional overtones and it would be best to await the outcome of the Food Labelling Committee's intended consideration of nutritional labelling (see paras 11 and 12). It was agreed that the draft should not be amended but the Committee would need to consider this topic further when the Committee on Food Labelling had reported.

23. A reservation on the use of "minimum durability" in Section 7.7 (Date Marking and Storage Instructions) was made by the delegations of Japan and Thailand who preferred that the "production date" should be indicated. The delegation of Sweden pointed out that Section 7.8 (Bulk Packs) was still to be developed. The representative of FAO informed the Committee that a Working Group of the Codex Committee on Food Labelling had been formed to draft guideline labelling provisions for bulk packs and that the Committee should await these guidelines.

Methods of Analysis and Sampling (Section 8)

24. The delegation of France indicated that, as a method of checking the validity of an ingredient list showing the component oils in a mixture, fatty acid and sterol provisions needed to be used and therefore this Section should make reference to these two methods of analysis. They agreed that such a check would be quantitative in certain cases and qualitative in others. The delegation of Australia agreed with these French proposals. The Chairman pointed out that methods included in all standards were there to check specific quality or identity limits provided in other sections of the standards, and it would be a departure from usual practice to include methods other than for this reason. However, the Chairman suggested that possibly a footnote could be included in the standard to encompass the French requirement. This seemed acceptable to the delegation of France. At the suggestion of the delegation of the United States further discussion on this point was deferred until after Agenda Items 10 (Fatty acid ranges) and 11 (Sterol ranges).

25. In answer to the delegation of Australia who wished that methods of sampling be included as soon as possible, the Chairman pointed out that sampling was at present under active discussion in the Codex Committee on Methods of Analysis and Sampling.

Status of the Standard

26. The Committee decided to advance the revised text of the General Standard for Fats and Oils not covered by Individual Standards to Step 8. The Standard, as amended, is contained in Appendix II to this Report.

CONSIDERATION OF THE DRAFT STANDARD FOR REDUCED FAT MARGARINE AT STEP 7

27. The Committee had before it the above standard as contained in Appendix III to ALINORM 78/17 and government comments in CX/FO 78/4 and Conference Room Document No. 1. Discussion of the proposals commenced with an attempt to clarify the Committee's views on the type and nature of the standard it wished to be developed. It was clear that there were two schools of thought on the matter; one which felt that a standard should be developed which would cover all alternatives to butter or margarine, these could be called spreadable fats or table fats, and another who favoured a standard with a limited fat content range. The delegations of Australia, United States, Sweden, Finland and the United Kingdom favoured a broad-based standard; whilst the delegations of the Federal Republic of Germany, Brazil, France, Denmark, Belgium, Switzerland, Austria, the Netherlands and Canada favoured a more restricted standard. The delegation of New Zealand whilst seeing merits in a restricted standard preferred not to commit itself positively at this stage.

28. An attempt was made to reach a compromise in that the delegation of the United States suggested that a standard with a 30-50% fat content might be considered. The delegation of Belgium was interested in the proposal, as was the delegation of Australia who suggested a possible range of 40-60% although they felt that a lower level of 35-55% might be acceptable. The delegation of France also had some sympathy for different ranges but felt, as did the delegation of Belgium, that there was a need to consider the matter in more depth before expressing a firm view.

29. During discussion Mr. Anderson of the delegation of the United Kingdom, who had acted as rapporteur for the Committee at the last Commission meeting in Rome, reported that it had been decided and subsequently agreed, by the Committee of Government Experts on the Code of Principles concerning Milk and Milk Products, that the Committee on Fats and Oils should consider dealing with all products except those where the fat content was solely derived from milk (see CX/FO 78/12). The Committee agreed that it would deal with such products, and that the Standard being considered would need amendment, such as changing Product Definition to read "not solely derived from milk", to take account of the higher dairy fat content.

30. There was further detailed discussion of possible approaches including that put forward by the delegation of the United Kingdom in which they suggested that the standard should cover table fats with a minimum fat content of 35% with allowance for specialized products within the standard, and with restraints on the use of terms such as "low fat", "reduced fat" and "full fat". The delegation of the Netherlands suggested that it might be possible to develop a standard with a limited range only, particularly as the present draft had reached such an advanced stage. There were also reiterations of reservations about other aspects of the draft, including the wish of the delegation of Sweden, opposed by those of the Federal Republic of Germany and the United States, that the 50% minimum water content be deleted, and reservations by the delegations of France and the Federal Republic of Germany about the numerous additives.

31. It became clear that no general agreement about the nature or content of a draft standard could be reached. In view of the situation that had developed it was agreed on a proposal put by the delegation of New Zealand that the Secretariat should prepare a detailed paper on the subject including revised draft standards, and taking into account views expressed at the meeting, for circulation to Member Countries for comment and further discussion at the next meeting. At the FAO representative's suggestion, and bearing in mind a number of delegations' reservations about the use of margarine in the titles of the proposed standards, it was agreed that the Secretariat should consider the possibility of including three draft standards in its paper. These might be: one for a low fat spread with a restricted range of fat content, one for other low fat spreads, and one covering a wider range of products sold as alternative table fats to butter or margarine.

Status of the Standard

32. The final decision on the Draft Standard for products with the reduced fat content was that it should be returned to Step 6 of the Procedure. The revised draft standard will be issued to governments separately together with the paper mentioned in paragraph 31.

CONSIDERATION OF THE DRAFT STANDARD FOR EDIBLE LOW ERUCIC ACID RAPESEED OIL AT STEP 7

33. The Committee had before it Working Paper CX/FO 78/5 and Conference Room Document No. 1 and the above standard as contained in Appendix IV to ALINORM 78/17. On the proposal of the delegation of Canada, supported by the delegation of the Federal Republic of Germany the words "for direct consumption" in the Scope Section were deleted as unnecessary. The delegation of Canada further suggested that an editorial amendment to Section 3.1.7 was necessary. The Committee agreed that the wording of this Section should be:

"3.1.7 Brassicasterol ..... not less than 5% of the total sterols".

The Chairman reassured the delegation of Japan that a limit of 5% erucic acid in this standard could be reviewed as oils from advanced plant breeding techniques became commercially available and in the light of greater understanding of nutritional aspects.

34. After consideration of comments it was decided that the fatty acid ranges be amended as follows:

C 14:0	<0.2
C 16:0	2.5 - 6.0
C 16:1	<0.6
C 18:0	0.9 - 2.1
C 18:1	50 - 66
C 18:2	18 - 30
C 18:3	6.0 - 14
C 20:0	0.1 - 1.2
C 20:1	0.1 - 4.3
C 22:0	<0.5
C 22:1	≤5.0
C 24:0	<0.2

Concerning contaminants the delegation of India described a problem of hydrocyanic acid (HCN) contamination that had occurred in low erucic acid rapeseed oils. The Committee noted this and the Chairman advised the delegation of India that this matter could be raised again at the next session of the Codex Alimentarius Commission. The Chairman further agreed at the suggestion of the delegation of Brazil that the use of artificial flavours to restore natural flavour lost in processing should be put to the Codex Committee on Food Additives as Section 4.2 was standard wording. The delegation of Sweden proposed that Section 7.7 (Date Marking) should contain not only reference to "minimum durability" but also to the recommended storage conditions. This amendment (to be identical with Section 7.7 of the Draft Revised General Standard) was agreed by the Committee. The delegation of Japan informed the Committee that they require "date of manufacture" rather than "minimum durability".

35. The Chairman pointed out to the Committee that there would be some consequential amendments necessary to the Step 9 Standard on Rapeseed Oil which would be discussed at a future session.

Status of the Standard

36. The Committee advanced the Draft Standard for Edible Low Erucic Rapeseed Oil, as amended, to Step 8 of the Procedure. The above Standard is contained in Appendix III to this Report.

CONSIDERATION OF THE DRAFT STANDARDS FOR EDIBLE COCONUT, RED PALM AND BLEACHED PALM, PALM KERNEL, GRAPESEED AND BABASSU OILS AT STEP 7

37. The Committee considered the above draft standards (Appendices VI to X of ALINORM 78/17) in the light of government comments as contained in CX/FO 78/6 and Conference Room Documents No. 1, 5 and 6 and discussed their final content.

38. In discussion, the delegations of Japan and Thailand expressed reservations about the date marking requirements preferring that these should require "date of manufacture". The delegation of Sweden proposed and it was accepted by the Committee that the date marking sections of these five standards should be amplified to indicate storage requirements (see also paragraph 34 of the Report). The delegation of India had requested that contaminant levels should be raised because this related to their national situation. However, the Committee, bearing in mind that international standards were being elaborated was unwilling to raise the levels. It was noted by the Committee that the delegation of India was endeavouring to reduce the levels in their oils.

39. The delegation of Australia drew the Committee's attention to doubts Australia had about the Name of the Food Section (7.1) of the Standards under discussion and the other Fats and Oils Standards that had been elaborated. They felt that it should be quite clear that the standards related to foods, bearing in mind that similar oils not intended for food were in trade which should not be subject to the Standards. The Committee recognized the need for clarity and it was agreed that the reference in these standards and others already elaborated should be amended by inserting "food" before "products" in the first line of the Section.

40. In discussing detailed amendments to the draft standards there seemed to be possible difficulties in the compatibility between revised GLC ranges and iodine values. It was decided that the agreed revised figures should be shown in the draft report but that the Secretariat, helped by the delegations of France and the United States, would urgently examine the problem and establish compatible figures for iodine values to be included in the final report. 1/

41. In considering the draft Standard for Palm Oil the delegation of Malaysia suggested that Refractive Index and Relative Density determination should be made at 50°C and not 40°C. This was accepted by the Committee. It was further agreed that in Section 3.2.3 (Acid Value) the reference to "/according to local preference/" should be deleted. There appeared some confusion as to whether red palm oil was always a virgin oil and whether bleached palm oil could ever be a virgin oil. The Committee concluded that a virgin oil will be a red palm oil but that non virgin oils could be either red or bleached palm oil. The Chairman also informed the Committee that a method of analysis for carotenoids was necessary in the draft standard. It was agreed that the method published by the British Standards Institution (BSI 684: 1977 Section 2:20) should be adopted. The delegation of Thailand proposed the addition to the additives list of palm oils of the antioxidant TBHQ at a level of 200 mg/kg. This was agreed.

42. In considering the Draft Standard for Palm Kernel Oil, the delegation of France proposed that references to and limits for virgin oils in the Sections on Acid Value (3.2.3), Iron (5.4) and Copper (5.5) should be inserted. The Committee, having established from comments of the delegation of Malaysia that virgin palm kernel oil was consumed directly, agreed that values of 4 mg KOH/g, 5 mg/kg and 0.4 mg/kg (standard figures in other standards) would be included for virgin oil in Sections 3.2.3, 5.4 and 5.5 respectively.

43. In considering the Draft Standard for Grapeseed Oil, doubts were raised about the inclusion of the Italian method of analysis as that for identifying the erythrodiol content of the sterol fraction (Section 3.1.6) which was not an internationally accepted method. It was decided that the method should be indicated in the standard as "to be developed" but the matter would be drawn to the attention of IUPAC to instigate collaborative studies etc.

Status of the Standards

44. The Committee decided to advance the above draft standards for **Edible Coconut Oil, Palm Oil, Palm Kernel Oil, Grapeseed Oil, Babassu Oil to Step 8 of the Procedure. The standards are contained in Appendices IV to VIII to this Report.**

RECOMMENDED INTERNATIONAL STANDARD FOR OLIVE OIL (CAC/RS 33-1971)

45. The Committee considered working papers CX/FO 78/7 and CX/FO 78/7 Add. 1 and Conference Room Document No. 1 dealing with methods of analysis for the determination of the following substances:

Tocopherols

46. The observer of the International Olive Oil Council (IOOC) informed the Committee that a collaborative trial was being organized in laboratories in France, Greece, Italy, Spain and Turkey to evaluate the "Spanish" method (CX/FO 78/7 Add. 1, Appendix I) and the "AFNOR" method (CX/FO 78/7 Add. 1, Appendix II). The observer of the EEC explained that they had a group of experts looking at these methods and that their results would be made available to the IOOC. The Chairman concluded that any Committee decision should await the results of these collaborative trials.

1/ **Note by the Secretariat:**
The revised figures for iodine values will be communicated to governments prior to the next session of the Codex Alimentarius Commission.

Fatty Acids at Position 2

47. The observer of the IOOC explained that the International Olive Oil Council had adopted three limits for position 2 fatty acids. These were "not more than 1.5%" for virgin oils, "not more than 1.8%" for pure and refined oils and "not more than 2.2%" for refined residue oils. The observer of the IOOC further explained that these limits referred to the sum of palmitic and stearic acids. There was considerable debate between the delegations of Greece, Italy, Spain and France on these limits and to which fatty acids they applied, with a particular reservation from the delegation of Greece who reported that practical experience in that country indicated that for virgin olive oils a 2% limit expressed as palmitic acid would be adequate but that genuine oils after storage and/or refining frequently exceeded the percentage limits. Further, the delegation of Greece explained that any limit should only apply to palmitic acid and that the method adopted by the Committee (IUPAC II.D.27, ALINORM 78/17, paragraph 73) needed amendment. The delegation of Spain commented that searching studies had taken place for some years which did not confirm the findings in Greece and that any amendment to IUPAC II.D.27 would necessarily require collaborative testing. However, in the opinion of the delegation of Spain the selected method was satisfactory. **(See also para 64).**

48. After consideration of the footnote concerning glyceride alteration proposed by IUPAC (CX/FO 78/7) it was agreed that this should not be included in the standard although the delegation of Greece was of the opinion that it adequately summarized its particular problem and expressed disappointment that the usual practice of the Committee to relax limits when a producing country, from practical experience, indicates the need was not, in this instance, to be exercised.

49.

Paragraph deleted

Sterols

50. It was proposed by the observer of the IOOC that a minimum limit of 93% β-sitosterol of the total sterols be adopted; and that, necessarily, the method of analysis adopted by the Committee (IUPAC.II.C.8: ALINORM 78/17, para 73) should only specify SE30 as the packing material. This found general agreement although the delegations of Greece and France expressed the view that, as greater experience was gained with the use of polar packings (e.g. OV17) which gave better resolution of constituent sterols including those appearing under the "β-sitosterol" peak when using SE30, further consideration should be given to the proposed limit. The observer of the IOOC confirmed that the use of polar packings was to be investigated but that, as most of their experience was with the use of SE30, this should be adopted at present.

51. It was therefore agreed by the Committee that a minimum limit of 93% β-sitosterol as analyzed by IUPAC.II.C.8, but only employing SE30 packing material, should be included in the standard.

IDENTIFICATION CHARACTERISTICS BASED ON FATTY ACID RANGES DETERMINED BY GLC. U.S.A. GRAPHIC PROCEDURE FOR IDENTIFICATION OF COMMERCIAL FATS AND OILS

GLC Identification

52. The Committee discussed the question of whether fatty acid ranges determined by GLC should be included in standards as mandatory criteria, bearing in mind the improved techniques available (CX/FO 78/8, CX/FO 78/8 Add.1 and Conference Room Documents Nos. 1, 2 and 5). It was agreed that GLC was a very useful identification technique being often more sensitive than traditional methods. However, some countries, including Spain, Italy, the Netherlands and the United Kingdom had doubts about their mandatory inclusion in all standards to the exclusion of other criteria that countries might wish to use to identify fats and oils. The delegation of the Netherlands agreed that if an oil failed

to meet the GLC characteristics it would be rejected, but had doubts in that if it passed these it would have to be accepted even though they suspected from other tests that the product was not as stated. The delegation of Ireland also referred to possible difficulties because of the considerably extended ranges. The Committee on a proposal from the delegation of the United States supported and enlarged by the delegation of the United Kingdom resolved these doubts by agreeing that as a matter of principle the position would be that governments accepting Codex standards for edible fats and oils may employ supplementary non-mandatory criteria if considered necessary to ensure that a sample is in compliance with the description given to the product. In these circumstances the Committee agreed that GLC ranges should be included in all its standards.

53. The Committee discussed the problems of those using the Codex standards who might not be aware of the principle on which it had been decided to include GLC into the standards. The FAO representative told the Committee that it was intended to publish all the Fats and Oils Standards in one book. It was suggested and endorsed by others that this would facilitate the inclusion of a section giving the Committees' decisions and principles relative to the actual standards. It was also agreed that the Secretariat should extract the Committees decisions on other matters that could go into the Principles Section. The delegation of the United Kingdom suggested that it would be useful to include with this Report a complete and up-to-date list of fatty acid ranges; this was agreed (List at Appendix XI) and also that the list would ultimately be included in the new edition of Codex Standards for Fats and Oils.

The U.S.A. Graphic Procedure

54. A proposal made by the delegation of the United States for a simplified procedure (Appendix I to CX/FO 78/8) to be used for GLC identification was considered. Whilst there was support for the proposals the delegations of the Netherlands, Italy, France and the United Kingdom expressed doubts about the inclusion of a 2% tolerance in the procedure. There were also doubts about how the procedure might fit into the Codex Alimentarius arrangements. It was decided that the procedure would not be included in standards, but could be used at the discretion of countries dealing with fats and oils. No amendments were suggested to the proposals other than that the delegation of the United Kingdom had suggested that the paragraph referring to the 2% tolerance might be amended to read:

> "5. Accept the sample as having the represented identity if step 4 does not reveal a better fit than in step 2 and if the sum of deviations from prescribed ranges for all fatty acids in the fat or oil is not greater than 2%, and any individual deviation shall not exceed 10% of the maximum value of the prescribed range".

It was decided that at another session the Committee could decide whether a modified version of the procedure elaborated by the United States could be adopted.

IDENTITY CHARACTERISTICS BASED ON STEROL RANGES

55. The Committee considered working document CX/FO 78/9 and CX/FO 78/9 Add. 1 and Conference Room Documents No. 1 and 2. The Chairman summarized the present situation concerning sterol ranges by saying that it was clear that they may eventually prove a useful extra means of checking the identity of oils and fats. In answer to the delegation of the Netherlands the Chairman suggested that although considering sterols to be potentially a useful aid, it was premature to consider the question of any mandatory application of these ranges in standards.

56. It was agreed by the Committee that the Secretariat should contact those member countries with a particular interest in sterols in order to collect and collate information and data on sterols so that a paper could be presented to the next session of the Committee.

REVIEW OF METHODS OF ANALYSIS INCLUDED IN STANDARDS AND DRAFT STANDARDS

57. In summarizing working paper CX/FO 78/10, the Chairman explained that, in addition to simple changes that occur to the references of methods adopted by the Committee which may be dealt with by the procedure for editorial amendments adopted by the Codex Alimentarius Commission there were other methods included in standards which had been more fundamentally amended (or in some cases superseded) by the organization responsible for the method. In these cases the Secretariat was proposing to contact the organization to find the reason for the amendment (or new method) and establish that the method as now recommended by the organization had been successfully collaboratively tested. This information would then be presented to the Committee for consideration with a view to adopting the amended (or new) method. The one exception to this scheme was where the Codex Committee on Methods of Analysis and Sampling had adopted a general method for a particular determination. This course of action was accepted by the Committee.

58. The observer of ISO supported by the delegation of the United States considered that it would be useful to have the Table appended to CX/FO 78/10 published and it was agreed that it would be included in the Report of the Tenth Session (see Appendix X). The delegation of Yugoslavia suggested that a method for the clarity or translucence of an oil was required in standards. A delegate from the United States agreed that the American Organization of Seed Crushers (AOSC) would forward details of such methods.

INCLUSION OF PROCESSING AID CRITERIA IN STANDARDS AND DRAFT STANDARDS

59. The Committee had before it working paper CX/FO 78/11 and Conference Room Documents No. 1, 3 and 5. A further document (Conference Room Document No. 7) was distributed as the report of the Working Group set up to discuss processing aids (see para 6).

60. Dr. R. Weik of the delegation of the United States, who had chaired the Working Group, spoke about Conference Room Document No.7 after which the Chairman thanked the Working Group for their efforts. The delegation of Ireland and the observer of IUPAC suggested that the list of processing aids in the paper was possibly not complete and the delegation of Belgium questioned the action that would be taken with the list. The Chairman confirmed that the list contained in Appendix IX to this Report would be circulated for government comments on those processing aids included, additions to the list, and residues typically found in oils and fats. This information would be collated by the Secretariat and presented to the Committee at the next session for discussion after which it would be forwarded to the Committee on Food Additives. The Chairman suggested that eventually a finalized list would form part of the publication of all Codex standards for Fats and Oils (see para 53).

61. The delegation of Norway noted that the Committee on Food Additives was at present requesting information from governments on processing aids in general and had published a list of categories into which processing aids should be placed. The Committee agreed that this list of categories was insufficient for fats and oils purposes and the delegation of the United States suggested that some coordination between Codex Commodity Committees would be necessary. The delegation of Japan was concerned in that there could be difficulty in knowing when an imported food had been processed using a processing aid not allowed in the importing country. The Chairman agreed that methods of analysis for residues could be a problem. This view was endorsed by the delegation of the United States.

62. It was discussed whether processing aids should be considered food additives, contaminants or neither. The Chairman suggested that this aspect should be left for the present as the main effort should be in compiling a list of processing aids that were technologically justified, non-functional in products at their typical residual levels and that these residues were safe to the consumer. The representative of FAO agreed that JECFA would need to be contacted on this last requirement. The delegation of Belgium considered that in order that a toxicological assessment may be made it would be necessary to show the form in which the processing aid residues were present in the oil.

63. The Committee agreed that the course of action summarized in paragraph 60 should be followed.

OTHER BUSINESS

64. The Chairman had been advised that there was some doubt whether the limits for fatty acids in position 2 of olive oil had in fact been fully endorsed by IOOC. Under the circumstances it was decided that the matter would need to be reconsidered at the Committee's next session and that in the meantime the provisions should be considered provisional. The Secretariat was informed, after the Session, that the following three limits for saturated fatty acids in position 2: "not more than 1.5% for virgin olive oils", "not more than 1.8% for refined olive oils", "not more than 2.2% for refined olive residue oils" were provisional limits pending receipt of results of analytical methods presently being tested by the IOOC Analysis Laboratory. The above limits did in fact refer to the sum of palmitic and stearic acids.
The final figures would be submitted to this Committee.

65. The delegation of Egypt proposed that a standard for Vegetable and Mixed Animal and Vegetable Ghees should be elaborated by the Committee. It was agreed that these products were of increasing importance in international trade and of special importance to countries such as Egypt or countries of the Neat East and Asia. The Secretariat, in collaboration with Egypt, India and FAO, was requested to prepare a document on Vegetable Ghees and a first draft of a standard. Government comments would be requested prior to the next session.

66. The delegation of the United States proposed that the Committee at its next session should reconsider the situation in which, because of the revised provision of the General Standard, a large number of products passing in international trade were not covered. The delegation of the United States was requested to supply the Secretariat with details of these products. Other countries were also invited to supply information to the Secretariat.

DATE AND PLACE OF THE NEXT SESSION

67. The Committee was informed that this would be in London in mid-1980 having regard to the overall schedule of Codex sessions.

Summary Status of Work

Standard/Code/Document	Status Step	To be dealt with by	Document Reference
1. General Standard for Edible Fats and Oils not covered by individual standards	9	Governments	CAC/RS 19-1969 & Amendment 1 see also under 17.
2. Edible Soya Bean Oil	9	Governments	CAC/RS 20-1969 & Amendment 1
3. Edible Arachis Oil	9	Governments	CAC/RS 21-1969 & Amendment 1
4. Edible Cottonseed Oil	9	Governments	CAC/RS 22-1969 & Amendment 1
5. Edible Sunflowerseed Oil	9	Governments	CAC/RS 23-1969 & Amendment 1
6. Edible Rapeseed Oil	9	Governments	CAC/RS 24-1969 & Amendment 1
7. Edible Maize Oil	9	Governments	CAC/RS 25-1969 & Amendment 1
8. Edible Sesameseed Oil	9	Governments	CAC/RS 26-1969 & Amendment 1
9. Edible Sufflowerseed Oil	9	Governments	CAC/RS 27-1969 & Amendment 1
10. Lard	9	Governments	CAC/RS 28-1969 & Amendment 1
11. Rendered Pork Fat	9	Governments	CAC/RS 29-1969 & Amendment 1
12. Premier Jus	9	Governments	CAC/RS 30-1969 & Amendment 1
13. Edible Tallow	9	Governments	CAC/RS 31-1969 & Amendment 1
14. Margarine	9	Governments	CAC/RS 32-1969 & Amendment 1, and Add. 1
15. Olive Oil	9	Governments	CAC/RS 33-1970 & Amendment 1
16. Mustardseed Oil	9	Governments	CAC/RS 34-1970 & Amendment 1
17. Revised Text of General Standard for Edible Fats and Oils not covered by individual standards	8	13th CAC	ALINORM 79/17, paras 13-26 and Appendix II
18. Edible Low Erucic Acid Rapeseed Oil	8	13th CAC	ALINORM 79/17, paras 33-36,52-53 and Appendix III
19. Edible Coconut Oil	8	13th CAC	ALINORM 79/17, paras 37-44,52-53 and Appendix IV
20. Edible Palm Oil	8	13th CAC	ALINORM 79/17, paras 37-44,52-53 and Appendix V
21. Edible Palm Kernel Oil	8	13th CAC	ALINORM 79/17, paras 37-44,52-53 and Appendix VI
22. Edible Grapeseed Oil	8	13th CAC	ALINORM 79/17, paras 37-44,52-53 and Appendix VII
23. Edible Babassu Oil	8	13th CAC	ALINORM 79/17, paras 37-44,52-53 and Appendix VIII

Standard/Code/Document	Status Step	To be dealt with by	Document Reference
24. Products with Reduced Fat Content	6 & two first drafts	11th CCFO	CX/FO 80/... 1/ ALINORM 79/17, paras 27-32
25. Vegetable Ghees	2	11th CCFO	CX/FO 80/... 1/ ALINORM 79/17, para 66
26. Working paper on Code of Practice for Processing	-	11th CCFO	CX/FO 80/... 1/ ALINORM 79/17, para 10
27. Review of Methods of Analysis	-	11th CCFO	CX/FO 80/... 1/ ALINORM 79/17, Appendix X and paras 57-58
28. Consideration of Processing Aids	-	11th CCFO	CX/FO 80/... 1/ ALINORM 79/17, Appendix IX and paras 59-63
29. Consideration of products not covered by the General and Individual Standards for Fats and Oils	-	11th CCFO	ALINORM 79/17, para 66

1/ Will be issued separately in due course.

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GENERAL STANDARD FOR EDIBLE FATS AND OILS NOT COVERED BY INDIVIDUAL CODEX STANDARDS (CAC/RS 19-1969)

(Revised text at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible oils and fats and mixtures thereof which are used for direct consumption including catering purposes or as ingredients in the manufacture of food products. It includes oils and fats that have been subjected to processes of modification but does not include oils and fats which must be subjected to further processing in order to render them suitable for human consumption. This standard does not apply to any oil or fat which is the subject of a specific Codex Commodity standard and is designated by a specific name laid down in such standards.

2. DESCRIPTIONS

2.1 Edible Fats and Oils means those foodstuffs defined in provision 1 which are composed of glycerides of fatty acids. They are of vegetable, animal or marine origin. They may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in the fat or oil. Fats of animal origin must be produced from animals in good health at the time of slaughter and be fit for human consumption as determined by a competent authority recognized in national legislation (see Section 6).

2.2 Virgin Fats and Oils means edible vegetable fats and oils obtained by mechanical procedures and the application of heat only. They may have been purified by washing with water, settling, filtering and centrifuging only.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Materials

Edible fats and/or oils or mixtures thereof.

3.2 Colour

Characteristic of the designated product.

3.3 Odour and Taste

Characteristic of the designated product and free from foreign and rancid odour and taste.

3.4 Acid Value

Virgin fats and oils	not more than 4 mg KOH/g fat or oil.
Non-virgin fats and oils	not more than 0.6 mg KOH/g fat or oil.
3.5 Peroxide Value	not more than 10 milliequivalents of peroxide oxygen/kg fat or oil.

4. FOOD ADDITIVES (Not permitted in virgin oils covered by the Standard).

4.1 Colours

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

		Maximum level
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	Not limited
4.1.3	Curcumin*	Not limited
4.1.4	Canthaxanthine	Not limited
4.1.5	Beta-apo-8'-carotenal	Not limited
4.1.6	Methyl and ethyl esters of beta-apo-8'-carotenoic acid	Not limited

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* Temporarily endorsed.

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value*.

		Maximum level
4.3	**Antioxidants**	
4.3.1	Propyl, octyl, and dodecyl gallates*	100 mg/kg individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)* Butylated hydroxyanisole (BHA)* Tertiary butyl hydroquinone (TBHQ) [4-Hydroxymethyl-2,6-diterbutylphenol]	200 mg/kg individually or in combination
4.3.3	Any combination of gallates with BHA or BHT, and/or TBHQ*	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.4	Natural and synthetic tocopherols	Not limited
4.3.5	Ascorbyl palmitate	500 mg/kg individually or in combination
4.3.6	Ascorbyl stearate	
4.3.7	Dilauryl thiodipropionate	200 mg/kg
4.4	**Antioxidant synergists**	
4.4.1	Citric acid and its sodium salt	Not limited
4.4.2	Isopropyl citrate mixture	100 mg/kg individually or in combination
4.4.3	Phosphoric acid	
4.5	**Anti-foaming agent**	
	Dimethyl polysiloxane (dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg
4.6	**Crystallisation inhibitor**	
	Oxystearin	1 250 mg/kg

5. CONTAMINANTS

5.1	Matter volatile at 105°C	0.2% m/m
5.2	Insoluble impurities	0.05% m/m
5.3	Soap content	0.005% m/m
5.4	Iron (Fe) - virgin oil	5 mg/kg
	- non-virgin oil	1.5 mg/kg
5.5	Copper (Cu) - virgin oil	0.4 mg/kg
	- non-virgin oil	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969) and the Recommended International Code of Hygienic Practice for Processed Meat Products (CAC/RCP 13-1976).

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* Temporarily endorsed.

7. LABELLING

In addition to sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969) the following specific provisions apply.

7.1 Name of the Food

7.1.1 The name designated for the food product conforming to the definition at 2.1 of the standard shall be such as to give a true indication of the nature of the fat or oil, and not to mislead the consumer. In the case of mixtures, names such as edible oil and salad oil which do not indicate a plant or animal source may be used without further qualification.

7.1.2 Where an oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency the specific name of the oil shall not be used unless qualified to indicate the nature of the process.

7.1.3 The designation virgin fat or virgin oil may only be used for individual fats or oils conforming to the definition at 2.2 of this standard.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking and Storage Instructions

7.7.1 The date of minimum durability of the product shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be elaborated).

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods.

8.1 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2 Acid Value)

Results are expressed as the number of mg KOH required to neutralize 1 g oil or fat.

8.2 Determination of Peroxide Value (I_p)

According to the IUPAC (1964) method (IUPAC Standard Methods for the analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13 Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg fat or oil.

8.3 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1 Moisture and Volatile Matter).

Results are expressed as % m/m.

8.4 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2 Impurities).

Results are expressed as % m/m.

8.5 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Codex Alimentarius Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

8.6 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Codex Alimentarius Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

8.7 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method - 24.023-24.028).

Results are expressed as mg copper/kg.

8.8 Determination of Lead*

According to the AOAC (1965) method after complete disgestion by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965), 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048).

Results are expressed as mg lead/kg.

8.9 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Nethod of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

DRAFT STANDARD FOR EDIBLE LOW ERUCIC ACID RAPESEED OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible low erucic acid rapeseed oil but does not apply to low erucic acid rapeseed oil which must be subjected to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Low Erucic Acid Rapeseed Oil (synonyms: low erucic acid turnip rape oil; low erucic acid colza oil) is produced from the low erucic acid oil-bearing seeds of varieties derived from the *Brassica napus L.*, *Brassica campestris L.* species.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (20°C/water at 20°C)	0.914 - 0.917
3.1.2	Refractive Index (n_D 40°C)	1.465 - 1.467
3.1.3	Saponification Value (mg KOH/g oil)	188 - 193
3.1.4	Iodine Value (Wijs)	110 - 126
3.1.5	Crismer Value	67 - 70
3.1.6	Unsaponifiable Matter	not more than 20 g/kg
3.1.7	Brassicasterol	not less than 5% of total sterols
3.1.8	Erucic Acid	not more than 5% (m/m) of the component fatty acids

3.1.9 GLC Ranges of Fatty Acid Composition (%) 1/

C14:0	< 0.2
C16:0	2.5 - 6.0
C16:1	< 0.6
C18:0	0.9 - 2.1
C18:1	50 - 66
C18:2	18 - 30
C18:3	6 - 14
C20:0	0.1 - 1.2
C20:1	0.1 - 4.3
C22:0	< 0.5
C22:1	< 5.0
C24:0	< 0.2

3.2 Quality Characteristics

3.2.1	Colour:	Characteristic of the designated product.
3.2.2	Odour and Taste:	Characteristic of the designated product and free from foreign and rancid odour and taste.
3.2.3	Acid Value:	Not more than 0.6 mg KOH/g oil.
3.2.4	Peroxide Value:	Not more than 10 milliequivalents peroxide oxygen/kg oil.

4. FOOD ADDITIVES

4.1 Colours

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

1/ See paragraphs 52 and 53 of ALINORM 79/17.

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	
4.1.3	Curcumin*	
4.1.4	Canthaxanthine	
4.1.5	Beta-apo-8'-carotenal	
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value*.

4.3 Antioxidants

		Maximum level of use
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Tertiary butylhydroquinone (TBHQ)	
4.3.5	Any combination of gallates with BHA, BHT and/or TBHQ *	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.6	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.7	Ascorbyl stearate	
4.3.8	Natural and synthetic tocopherols	Not limited
4.3.9	Dilauryl thiodipropionate	200 mg/kg

4.4 Antioxidant Synergists

4.4.1	Citric acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	

4.5 Anti-foaming Agent

Dimethyl polysiloxane (syn: Dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg

4.6 Crystallization inhibitor

Oxystearin	1 250 mg/kg

5. CONTAMINANTS

5.1	Matter volatile at 105°C	0.2% m/m
5.2	Insoluble impurities	0.05% m/m
5.3	Soap content	0.005% m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

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* Temporarily endorsed.

6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

7. LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply:

7.1 Name of the Food

7.1.1 All food products designated as low erucic acid rapeseed oil, low erucic acid turnip rape oil, low erucic acid colza oil, must conform to this standard.

7.1.2 Where low erucic acid rapeseed oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name low erucic acid rapeseed oil or any synonym shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the food shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be elaborated)

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C).

Results are expressed as relative density at 20°C/water at 20°C.

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.B.2 Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C (n_D 40°C).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2 Saponification Value (I_S).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1., II.D.7.2 and II.D.7.3 The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Crismer Value (I_C)

According to the AOCS method (Official and Tentative Methods of the American Oil Chemists' Society; AOCS Official Method Cb 4-35, Crismer Test, Fryer and Weston Modification, and Ca5a-40, Free Fatty Acids, calculating the acidity as oleic acid).

Results are expressed by a conventional value (I_C) as described in the method.

8.6 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC) (Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.7 Determination of Fatty Acid Composition

According to IUPAC Methods II.D.19 and II.D.25. 1/

8.8 Determination of Sterols

According to IUPAC Method II.C.8. 1/

8.9 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2 Acid Value (I_A).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.10 Determination of Peroxide Value (I_P)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13 Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.11 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1 Moisture and Volatile Matter).

Results are expressed as % m/m.

8.12 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2 Impurities).

Results are expressed as % m/m.

1/ Full reference will be given in the final publication.

8.13 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

8.14 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

8.15 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

8.16 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

8.17 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

APPENDIX IV

DRAFT INTERNATIONAL STANDARD FOR EDIBLE COCONUT OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible coconut oil but does not apply to coconut oil which must be subject to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Coconut oil is derived from the kernel of the coconut (*Cocos nucifera*).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density 40°C/water at 20°C	0.908 - 0.921
3.1.2	Refractive Index (n_D 40°C)	1.448 - 1.450
3.1.3	Saponification Value (mg KOH/g oil)	248 - 265
3.1.4	Iodine Value (Wijs)	6 - 11
3.1.5	Unsaponifiable matter	not more than 15 g/kg
3.1.6	Reichert Value	6 - 8.5
3.1.7	Polenske Value	13 - 18

3.1.8 GLC Ranges in Fatty Acid Composition (%) 1/

C 6:0	< 1.2
C 8:0	3.4 - 15
C10:0	3.2 - 15
C12:0	41 - 56
C14:0	13 - 23
C16:0	4.2 - 12
C18:0	1.0 - 4.7
C18:1	3.4 - 12
C18:2	0.9 - 3.7

3.2 Quality Characteristics

3.2.1	Colour:	Characteristic of the designated product.
3.2.2	Odour and Taste:	Characteristic of the designated product and free from foreign and rancid odour and taste.
3.2.3	Acid Value:	
	virgin oil	not more than 4 mg KOH/g
	non-virgin oil	not more than 0.6 mg KOH/g
3.2.4	Peroxide Value:	not more than 10 milliequivalents peroxide oxygen/kg oil.

4. FOOD ADDITIVES

4.1 Colours

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

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	Not limited
4.1.3	Curcumin*	Not limited
4.1.4	Canthaxanthine	Not limited
4.1.5	Beta-apo-8'-carotenal	Not limited
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	Not limited

* Temporarily endorsed.

1/ See paragraphs 52 and 53 of ALINORM 79/17.

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value*.

4.3 Antioxidants

		Maximum level of use
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Any combination of gallates, with BHA or BHT, or both*	200 mg/kg, but gallates not to exceeed 100 mg/kg
4.3.5	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.6	Ascorbyl stearate	
4.3.7	Natural and synthetic tocopherols	Not limited
4.3.8	Dilauryl thiodipropionate	200 mg/kg

4.4 Antioxidant Synergists

4.4.1	Citric acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	

4.5 Anti-foaming Agent

Dimethyl polysiloxane (syn. Dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg

5. CONTAMINANTS

5.1	Matter volatile at 105°C		0.2 % m/m
5.2	Insoluble impurities		0.05% m/m
5.3	Soap content		0.005% m/m
5.4	Iron (Fe)	- virgin oil	5 mg/kg
		- non-virgin oil	1.5 mg/kg
5.5	Copper (Cu)	- virgin oil	0.4 mg/kg
		- non-virgin oil	0.1 mg/kg
5.6	Lead (Pb)*		0.1 mg/kg
5.7	Arsenic (As)		0.1 mg/kg

6. HYGIENE (to be endorsed)

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

7. LABELLING (to be endorsed)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply.

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* Temporarily endorsed.

7.1 Name of the Food

7.1.1 All food products designated as coconut oil must conform to this standard.

7.1.2 Where coconut oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name coconut oil shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter, or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the product shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be developed)

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

/According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C.).

Results are expressed as relative density at 40°C/water at 20°C./

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.B.2, Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C ($n_D 40°C$).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Saponification Value (I_S)).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3 The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC) Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.6 Determination of Reichert and Polenske Values

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.9, Soluble and Insoluble Volatile Acids).

8.7 Determination of Fatty Acid Composition

According to the IUPAC Methods II.D.19 and II.D.25. 1/

8.8 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2 Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.9 Determination of Peroxide Value (I_P)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13, Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.10 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1, Moisture and Volatile Matter).

Results are expressed as % m/m.

8.11 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2, Impurities).

Results are expressed as % m/m.

8.12 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

8.13 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

8.14 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg lead/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

1/ Full reference will be included in the final publication.

8.15 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

8.16 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

ALINORM 79/17
APPENDIX V

DRAFT INTERNATIONAL STANDARD FOR EDIBLE PALM OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible palm oil (edible red palm oil and edible bleached palm oil) but does not apply to palm oil (red palm oil or bleached palm oil) which must be subject to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Palm oil is derived from the fleshy mesocarp of the fruit of the oil palm (*Elaeis Guineensis*), and includes edible red palm oil and edible bleached palm oil.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (50°C/water at 20°C)	0.891 - 0.899
3.1.2	Refractive Index (n_D 50°C)	1.449 - 1.455
3.1.3	Saponification Value (mg KOH/g oil)	190 - 209
3.1.4	Iodine Value (Wijs)	50 - 55
3.1.5	Unsaponifiable Matter	not more than 12 g/kg

3.1.6 GLC Ranges of Fatty Acid Composition (%) [1]

C12:0	< 1.2
C14:0	0.5 - 5.9
C16:0	32 - 59
C16:1	< 0.6
C18:0	1.5 - 8.0
C18:1	27 - 52.0
C18:2	5.0 - 14
C18:3	< 1.5
C20:0	< 1.0

3.2 Quality Characteristics

3.2.1 Colour: Characteristic of the designated product.

3.2.2 Odour and taste: Characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid Value:

- virgin oil — not more than 10 mg KOH/g
- non-virgin oil — not more than 0.6 mg KOH/g.

3.2.4 Peroxide Value — not more than 10 milliequivalents peroxide oxygen/kg oil.

3.2.5 Total Carotenoids for Red Palm Oil - not less than 500 mg/kg and not more than 2 000 mg/kg calculated as beta carotene

4. FOOD ADDITIVES

4.1 Colours

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

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[1] See paragraphs 52 and 53 of ALINORM 79/17.

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	
4.1.3	Curcumin*	
4.1.4	Canthaxanthine	
4.1.5	Beta-apo-8'-carotenal	
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value.*

		Maximum level of use
4.3	Antioxidants	
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Tertiary butylhydroquinone (TBHQ)	
4.3.5	Any combination of gallates with BHA or BHT and/or TBHQ*	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.6	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.7	Ascorbyl stearate	
4.3.8	Natural and synthetic tocopherols	Not limited
4.3.9	Dilauryl thiodipropionate	200 mg/kg
4.4	Antioxidant Synergists	
4.4.1	Citric acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	
4.5	Anti-foaming Agent	
	Dimethyl polysiloxane (syn. Dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg
5.	CONTAMINANTS	
5.1	Matter Volatile at 105°C	0.2% m/m
5.2	Insoluble Impurities	0.05% m/m
5.3	Soap Content	0.005% m/m
5.4	Iron (Fe) - virgin oil	5 mg/kg
	- non-virgin oil	1.5 mg/kg
5.5	Copper (Cu) - virgin oil	0.4 mg/kg
	- non-virgin oil	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

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* Temporarily endorsed.

6. HYGIENE (to be endorsed)

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

7. LABELLING (to be endorsed)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply.

7.1 Name of the Food

7.1.1 All food products designated as palm oil, red palm oil or bleached palm oil must conform to this standard.

7.1.2 Where palm oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name palm oil or any synonym shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the product shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be developed).

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

/According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C).

Results are expressed as relative density at 40°C/water at 20°C./.

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.B.2, Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C (n_D 40°C).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Saponification Value (I_S)).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3 The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.6 Determination of Fatty Acid Composition

According to the IUPAC method II.D.19 and II.D.25. 1/

8.7 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2, Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.8 Determination of Peroxide Value (I_p)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13, Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.9 Determination of Carotenoids

According to BSI method (BSI 684, British Standards Institution, Methods of Analysis of Fats and Fatty Oils, Section 2.20:1977, Determination of carotene in vegetable oils).

8.10 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1, Moisture and Volatile Matter).

Results are expressed as % m/m.

8.11 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2, Impurities).

Results are expressed as % m/m.

8.12 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969), Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

1/ Full reference will be included in the final publication.

8.13 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

8.14 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

8.15 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

8.16 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

DRAFT INTERNATIONAL STANDARD FOR EDIBLE PALM KERNEL OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible palm kernel oil but does not apply to palm kernel oil which must be subject to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Palm Kernel Oil is derived from the kernel of the fruit of the oil palm (*Elaeis Guineensis*).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (40°C/water at 20°C)	0.899 - 0.914
3.1.2	Refractive Index (n_D 40°C)	1.448 - 1.452
3.1.3	Saponification Value (mg KOH/g oil)	230 - 254
3.1.4	Iodine Value (Wijs)	13 - 23
3.1.5	Unsaponifiable matter	not more than 10 g/kg
3.1.6	Reichert Value	4 - 7
3.1.7	Polenske Value	8 - 12

3.1.8 GLC Ranges of Fatty Acid Composition (%) 1/

C 6:0	< 0.5
C 8:0	2.4 - 6.2
C10:0	2.6 - 7.0
C12:0	41 - 55
C14:0	14 - 20
C16:0	6.5 - 11
C18:0	1.3 - 3.5
C18:1	10 - 23
C18:2	0.7 - 5.4

3.2 Quality Characteristics

3.2.1	Colour:	Characteristic of the designated product.
3.2.2	Odour and taste:	Characteristic of the designated product and free from foreign and rancid odour and taste.
3.2.3	Acid Value:	
	- non-virgin oil	not more than 0.6 mg KOH/g oil.
3.2.4	Peroxide Value:	not more than 10 milliequivalents peroxide oxygen/kg oil.

4. FOOD ADDITIVES

4.1 Colours

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

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	
4.1.3	Curcumin*	
4.1.4	Canthaxanthine	
4.1.5	Beta-apo-8'-carotenal	
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	

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* Temporarily endorsed.

1/ See paragraphs 52 and 53 of ALINORM 79/17.

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value*.

4.3	Antioxidants	Maximum level of use
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Any combination of gallates with BHA or BHT, or both*	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.5	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.6	Ascorbyl stearate	
4.3.7	Natural and synthetic tocopherols	Not limited
4.3.8	Dilauryl thiodipropionate	200 mg/kg
4.4	Antioxidant Synergists	
4.4.1	Citric acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	
4.5	Anti-foaming Agent	
	Dimethyl polysiloxane (syn. Dimethyl silicone) singly or in combination with silicone dioxide	10 mg/kg
5.	CONTAMINANTS	
5.1	Matter Volatile at 105°C	0.2 % m/m
5.2	Insoluble Impurities	0.05 % m/m
5.3	Soap Content	0.005 % m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

6. HYGIENE (to be endorsed)

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

7. LABELLING (to be endorsed)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply.

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* Temporarily endorsed.

7.1 Name of the Food

7.1.1 All food products designated as palm kernel oil must conform to this standard.

7.1.2 Where palm kernel oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name palm kernel oil shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purposes of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the product shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be developed).

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

/According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C).

Results are expressed as relative density at 40°C/water at 20°C./

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.B.2 Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C ($n_D 40°C$).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Saponification Value (I_S)).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3, The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.6 Determination of Reichert and Polenske Values

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.9, Soluble and Insoluble Volatile Acids).

8.7 Determination of Fatty Acid Composition

According to the IUPAC Methods II.D.19 and II.D.25. 1/

8.8 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2, Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.9 Determination of Peroxide Value (I_p)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13, Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.10 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1, Moisture and Volatile Matter).

Results are expressed as % m/m.

8.11 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2, Impurities).

Results are expressed as % m/m.

8.12 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

8.13 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

1/ Full reference will be included in the final publication.

8.14 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

8.15 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

8.16 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

APPENDIX VII

DRAFT INTERNATIONAL STANDARD FOR EDIBLE GRAPESEED OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible grapeseed oil but does not apply to grapeseed oil which must be subject to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Grapeseed Oil is derived from the seeds of the grape (*Vitis vinifera*).

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (20°C/water at 20°C)	0.923 - 0.926
3.1.2	Refractive Index (n_D 25°C)	1.473 - 1.477
3.1.3	Saponification Value (mg KOH/g oil)	188 - 194
3.1.4	Iodine Value (Wijs)	130 - 138
3.1.5	Unsaponifiable Matter	not more than 20 g/kg
3.1.6	Erythrodiol content of sterol content	not less than 2%(m/m) of total sterol content

3.1.7 GLC Ranges of Fatty Acid Composition (%) 1/

C12:0	< 0.5
C14:0	< 0.3
C16:0	5.5 - 11
C16:1	< 1.2
C18:0	3.0 - 6.0
C18:1	12 - 28
C18:2	58 - 78
C18:3	< 1.0
C20:0	< 1.0
C22:0	< 0.3
C24:0	< 0.1

3.2 Quality Characteristics

3.2.1 Colour: Characteristic of the designated product.

3.2.2 Odour and taste: Characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid Value: not more than 0.6 mg KOH/g oil.

3.2.4 Peroxide Value: not more than 10 milliequivalents peroxide oxygen/kg oil.

4. FOOD ADDITIVES

4.1 Colours

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

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	
4.1.3	Curcumin*	
4.1.4	Canthaxanthine	
4.1.5	Beta-apo-8'-carotenal	
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	

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* Temporarily endorsed.

1/ See paragraphs 52 and 53 of ALINORM 79/17.

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value.*

		Maximum level of use
4.3	Antioxidants	
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Any combination of gallates with BHA or BHT, or both*	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.5	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.6	Ascorbyl stearate	
4.3.7	Natural and synthetic tocopherols	Not limited
4.3.8	Dilauryl thiodipropionate	200 mg/kg
4.4	Antioxidant Synergists	
4.4.1	Citric Acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	
4.5	Anti-foaming Agent	
	Dimethyl polysiloxane (syn. Dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg
4.6	Crystallization Inhibitor	
	Oxystearin	1 250 mg/kg
5.	CONTAMINANTS	
5.1	Matter Volatile at 105°C	0.2% m/m
5.2	Insoluble Impurities	0.05% m/m
5.3	Soap Content	0.005% m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

6. HYGIENE (to be endorsed)

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

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* Temporarily endorsed.

7. LABELLING (to be endorsed)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply.

7.1 Name of the Food

7.1.1 All food products designated as grapeseed oil must conform to this standard.

7.1.2 Where grapeseed oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name grapeseed oil shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the product shall be declared in clear.

7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be developed).

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C).

Results are expressed as relative density at 20°C/water at 20°C.

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.B.2, Refractive Index).

Results are expressed as the refractive index relative to the sodium D-line at 40°C (n_D 40°C).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Saponification Value (I_S)).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3, The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.6 Determination of Erythrodiol Content

(Method to be developed).

8.7 Determination of Fatty Acid Composition

According to the IUPAC Methods II.D.19 and II.D.25. 1/

8.8 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2, Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.9 Determination of Peroxide Value (I_P)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13, Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.10 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1, Moisture and Volatile Matter).

Results are expressed as % m/m.

8.11 Determination of Insoluble Impurities

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2, Impurities).

Results are expressed as % m/m.

8.12 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

1/ Full reference will be included in the final publication.

8.13 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

8.14 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

8.15 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

8.16 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC (Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

DRAFT INTERNATIONAL STANDARD FOR EDIBLE BABASSU OIL

(at Step 8 of the Codex Procedure)

1. SCOPE

This standard applies to edible babassu oil but does not apply to babassu oil which must be subject to further processing in order to render it suitable for human consumption.

2. DESCRIPTION

Babassu oil is derived from the kernel of the fruit of several varieties of the palm Attalea funifera.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Identity Characteristics

3.1.1	Relative Density (25°C/water at 20°C)	0.914 - 0.917
3.1.2	Refractive Index (n_D 40°C)	1.448 - 1.451
3.1.3	Saponification Value (mg KOH/g oil)	245 - 256
3.1.4	Iodine Value (Wijs)	10 - 18
3.1.5	Unsaponifiable Matter	not more than 12 g/kg
3.1.6	Reichert Value	4.5 - 6.5
3.1.7	Polenske Value	8 - 10

3.1.8 GLC Ranges of Fatty Acid Composition (%) 1/

C 8:0	2.6 - 7.3
C10:0	1.2 - 7.6
C12:0	40 - 55
C14:0	11 - 27
C16:0	5.2 - 11
C18:0	1.8 - 7.4
C18:1	9.0 - 20
C18:2	1.4 - 6.6

3.2 Quality Characteristics

3.2.1 Colour: Characteristic of the designated product.

3.2.2 Odour and taste: Characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid Value:

- non-virgin oil not more than 0.6 mg KOH/g

3.2.4 Peroxide Value: not more than 10 milliequivalents peroxide oxygen/kg oil.

4. FOOD ADDITIVES

4.1 Colours

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

		Maximum level of use
4.1.1	Beta-carotene	Not limited
4.1.2	Annatto*	
4.1.3	Curcumin*	
4.1.4	Canthaxanthine	
4.1.5	Beta-apo-8'-carotenal	
4.1.6	Methyl and ethyl esters of Beta-apo-8'-carotenoic acid	

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* Temporarily endorsed.

1/ See paragraphs 52 and 53 of ALINORM 79/17.

4.2 Flavours

Natural flavours and their identical synthetic equivalents, except those which are known to represent a toxic hazard, and other synthetic flavours approved by the Codex Alimentarius Commission are permitted for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added flavour does not deceive or mislead the consumer by concealing damage or inferiority or by making the product appear to be of greater than actual value.*

4.3	Antioxidants	Maximum level of use
4.3.1	Propyl, octyl and dodecyl gallates*	100 mg/kg, individually or in combination
4.3.2	Butylated hydroxytoluene (BHT)*	200 mg/kg, individually or in combination
4.3.3	Butylated hydroxyanisole (BHA)*	
4.3.4	Any combination of gallates with BHA or BHT, or both*	200 mg/kg, but gallates not to exceed 100 mg/kg
4.3.5	Ascorbyl palmitate	500 mg/kg, individually or in combination
4.3.6	Ascorbyl stearate	
4.3.7	Natural and synthetic tocopherols	Not limited
4.3.8	Dilauryl thiodipropionate	200 mg/kg
4.4	**Antioxidant Synergists**	
4.4.1	Citric acid	Not limited
4.4.2	Sodium citrate	Not limited
4.4.3	Isopropyl citrate mixture	100 mg/kg, individually or in combination
4.4.4	Monoglyceride citrate	
4.4.5	Phosphoric acid	
4.5	**Anti-foaming Agent**	
	Dimethyl polysiloxane (syn. Dimethyl silicone) singly or in combination with silicon dioxide	10 mg/kg

5. CONTAMINANTS

5.1	Matter Volatile at 105°C	0.2% m/m
5.2	Insoluble Impurities	0.05% m/m
5.3	Soap Content	0.005% m/m
5.4	Iron (Fe)	1.5 mg/kg
5.5	Copper (Cu)	0.1 mg/kg
5.6	Lead (Pb)*	0.1 mg/kg
5.7	Arsenic (As)	0.1 mg/kg

6. HYGIENE (to be endorsed)

It is recommended that the product covered by the provisions of this standard be prepared in accordance with the appropriate sections of the General Principles of Food Hygiene recommended by the Codex Alimentarius Commission (Ref. No. CAC/RCP 1-1969).

7. LABELLING (to be endorsed)

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (Ref. No. CAC/RS 1-1969), the following specific provisions apply.

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* Temporarily endorsed.

7.1 Name of the Food

7.1.1 All food products designated as babassu oil must conform to this standard.

7.1.2 Where babassu oil has been subject to any process of esterification or to processing which alters its fatty acid composition or its consistency, the name babassu oil shall not be used unless qualified to indicate the nature of the process.

7.2 List of Ingredients

7.2.1 A complete list of ingredients shall be declared on the label in descending order of proportion.

7.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with sub-section 3.2(c)(ii) of the General Standard for the Labelling of Prepackaged Foods.

7.3 Net Contents

The net contents shall be declared in accordance with sub-section 3.3(a) of the General Standard for the Labelling of Prepackaged Foods.

7.4 Name and Address

The name and address of the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared.

7.5 Country of Origin

7.5.1 The country of origin of the product shall be declared if its omission would mislead or deceive the consumer.

7.5.2 When the product undergoes processing in a second country which changes its nature, the country in which the processing is performed shall be considered to be the country of origin for the purpose of labelling.

7.6 Lot Identification

Each container shall be embossed or otherwise permanently marked in code or in clear to identify the producing factory and the lot.

7.7 Date Marking

7.7.1 The date of minimum durability of the product shall be declared in clear.
7.7.2 In addition to the date, any special conditions for the storage of the food should be indicated if the validity of the date depends thereon.

7.8 Bulk Packs

(To be developed).

8. METHODS OF ANALYSIS AND SAMPLING

The methods of analysis and sampling referred to hereunder are international referee methods and are subject to endorsement by the Codex Committee on Methods of Analysis and Sampling.

8.1 Determination of Relative Density

/According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 9-1969, Determination of Relative Density at t/20°C).

Results are expressed as relative density at 40°C/water at 20°C./

8.2 Determination of Refractive Index

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Refractive Index).

Results are given as the refractive index relative to the sodium D-line at 40°C ($n_D 40°C$).

8.3 Determination of Saponification Value (I_S)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.2, Saponification Value (I_S)).

Results are expressed as the number of mg KOH/g oil.

8.4 Determination of Iodine Value (I_I)

According to the (Wijs) IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.1, II.D.7.2 and II.D.7.3, The Wijs Method).

Results are expressed as % m/m absorbed iodine.

8.5 Determination of Unsaponifiable Matter

According to the IUPAC (1964) diethyl ether method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.5.1 and II.D.5.3).

Results are expressed as g unsaponifiable matter/kg oil.

8.6 Determination of Reichert and Polenske Values

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.9, Soluble and Insoluble Volatile Acids).

8.7 Determination of Fatty Acid Composition

According to the IUPAC Methods II.D.19 and II.D.25. 1/

8.8 Determination of Acid Value (I_A)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.1.2, Acid Value (I_A)).

Results are expressed as the number of mg KOH required to neutralize 1 g oil.

8.9 Determination of Peroxide Value (I_P)

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.13, Peroxide Value).

Results are expressed as milliequivalents active oxygen/kg oil.

8.10 Determination of Matter Volatile at 105°C

According to the IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.1.1, Moisture and Volatile Matter).

Results are expressed as % m/m.

8.11 Determination of Insoluble Impurities

According to the IUPAC Standard Methods of Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.C.2, Impurities).

Results are expressed as % m/m.

8.12 Determination of Soap Content

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 13-1969, Determination of Soap Content).

Results are expressed as % m/m sodium oleate.

8.13 Determination of Iron*

According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 14-1969, Determination of Iron Content).

Results are expressed as mg iron/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

1/ Full reference will be included in the final publication.

8.14 Determination of Copper*

According to the AOAC (1965) method (Official Methods of Analysis of the AOAC International Union of Pure and Applied Chemistry Carbamate Method, 24.023-24.028).

Results are expressed as mg copper/kg.

8.15 Determination of Lead*

According to the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043j, 24.046, 24.047 and 24.048).

Results are expressed as mg lead/kg.

8.16 Determination of Arsenic

According to the colorimetric silver diethyldithiocarbamate method of the AOAC,(Official Methods of Analysis of the AOAC, 1965, 24.011-24.014, 24.016-24.017, 24.006-24.008).

Results are expressed as mg arsenic/kg.

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* Might be replaced by Atomic Absorption Spectrophotometry in the future.

ALINORM 79/17
APPENDIX IX

REPORT OF WORKING GROUP ON THE INCLUSION OF PROCESSING AIDS IN CODEX STANDARDS

An *ad hoc* Working Group on processing aids met during the session with the participation of the delegations of Denmark, France, Netherlands, United Kingdom and United States. The delegation of the United States chaired the meeting. The following points have been offered during the deliberations of the Working Group considering the disposition of processing aids in Codex Standards.

1. The commercially practised use of processing aids is not within the scope of either the additives or contaminants definitions of Codex.

2. The Working Group agreed with the definition of "processing aids" developed by the Codex Committee on Food Additives and concluded that a category is necessary for "processing aids" separate from and in addition to food additives or contaminants.

3. It was further suggested that this additional category be generally described by the following principles of good manufacturing practices:

   (a) Processing aids are technologically and economically justifiable components of the edible oil production process.
   (b) As such, they are used as functional agents only during the production process and are intentionally and substantially removed following or during such process by good manufacturing practices.
   (c) Unavoidable residual quantities of any processing aids remaining in processed oils are present in concentrations substantially less than the acceptable daily intake value and less than their minimum effective functional level.
   (d) The labelling section shall exempt processing aids from being declared on the label in the list of ingredients.

4. The Working Group agreed that the list of processing aids was advisory and concluded that the list was by its nature "closed" but that it would be possible to add new compounds to the list when appropriate criteria were met.
   Criteria for amending the list of processing aids were established as follows:

   Compounds may be added to the list when:
   (a) They are shown to be technologically and economically justifiable.
   (b) They are demonstrated to be toxicologically acceptable and non-functional at their typical residual levels.

5. It was further suggested that the list of processing aids, where applicable, be evaluated by the participating governments and that information on residual levels and methods of analysis be submitted to the Secretariat for tabulation and subsequent review by the Food Additives Committee.

6. Listed below is a composite grouping of common processing aids which may unintentionally remain in processed fats or oils within the scope of paragraph 3:

   A. PROCESSING SOLVENTS

   Propane, Butane, Hexane, Heptane, Isopropanol, Pentane, Methanol, Ethanol, Acetone, 2-Nitropropane, Water.

   B. ADSORBTION AGENTS

   Inert filtering agents, adsorbent clays (bleaching, natural or activated earths), adsorbent carbons, ion exchange resins, cellulose.

   C. CRYSTAL MODIFIERS

   Sodium lauryl sulphate, oxystearine, polyglycerol esters, lecithin.

D. CATALYSTS

(i) Hydrogenation

Nickel, Copper, Chromium, Manganese, Molybdenum, Platinum, Palladium.

(ii) Inter- or Trans-Esterification

Sodium metal, Sodium amide, Sodium methylate (methoxide), Sodium ethylate (ethoxide), Potassium ethylate (ethoxide), Potassium metal.

(iii) Hydrolysis

Sodium hydroxide.

(iv) Extraction

Enzymes.

F. GASES

Nitrogen, Hydrogen, Carbon dioxide.

G. ACIDS

Citric, Tartaric, Phosphoric, Hydrochloric, Sulphuric, Oxalic, Acetic.

H. BASES

Hydroxides of sodium, Potassium, Ammonium, Calcium and Magnesium, as well as Sodium carbonate.

I. SALTS

Citrates, Tartrates, Carbonates, Chlorides, Phosphates, Sulphates (as their Sodium, Potassium, Calcium and Magnesium salts), Sodium silicates, Calcium carbonate and Sodium bicarbonate.

METHODS AND ALTERNATIVES IN CX/FO STANDARDS

No	METHOD TITLE	REFERENCE IN STANDARD	STANDARDS IN WHICH CITED	ALTERNATIVE METHODS							
				AOAC	AOCS	IUPAC	ISO	CAC/RM	100C(1)	EEC(2)	BS1
1.	RELATIVE DENSITY	CAC/RM 9-1969	20-31, 34 & draft veg.oils	28.003-005 1975	Cc 10a-25 1973	6th Edition (1978)2.101	-	AS IN STANDARDS			BS684 : 1976 1.1
2.	RELATIVE DENSITY(3)	IUPAC 4th Ed. (1954) pg 37	33	"	"	"	-	CAC/RM 9-1969			"
3.	REFRACTIVE INDEX	IUPAC 5th Ed. (1966) IIB2	20-31, 33,34 & draft veg oils	28.006-008 1975	Cc 7-25 1973	6th Edition (1978)2.102	-	-			BS684 [1.2](4)
4.	SAPONIFICATION VALUE	IUPAC 5th Ed. (1966) IID 2	20-31,33,34 & draft veg oils	28.025-026 1975	Cd3-25 1973	6th Edition (1978)2.202	ISO 3657	-			BS684 : 1976 2.6
5.	IODINE VALUE	IUPAC 5th Ed. (1966) IID 7.1, 7.3	20-31,33,34 & draft veg oils	28.020-021 1975	Cd1-25 1973	6th Edition (1978)2.205	ISO 3961	-			BS684 : 1976 2.13
6.	UNSAPONIFIABLE MATTER (DIETHYL ETHER)	IUPAC 5th Ed. 1966 IID 5.1,5.3	20-31,34 & draft veg oils	28.068 1975	Ca 6b-53 1977	6th Edition (1978)2.401.5	draft doc as IUPAC IID 5	-			BS684 : 1976 2.7 (1)
7.	UNSAPONIFIABLE MATTER (LIGHT PET.)	IUPAC 5th Ed. (1966)IID 5.1, 5.2	33	-	Ca 6a - 40 1977	6th Edition (1978) 2.401.6	ISO/DIS 3596	-			BS684 : 1976 2.7 (2)
8.	ACID VALUE	IUPAC 5th Ed. (1966)IID 1.2	19-31,34 & draft veg oils	28.029 1975	Cd 3a - 63 1973	6th Edition (1978)2.201, .4,5	ISO/R 150 ISO/R 660	-			BS684 : 1976 2.10
9.	FREE ACIDITY	IUPAC 5th Ed. (1966)IID1.1	33	28.029 1975	Ca 5a - 40 1977	6th Edition (1978)2.201 .4,.5,.6	ISO/R 150 ISO/R 660	-			BS684 : 1976 2.10
10.	PEROXIDE VALUE	IUPAC 5th Ed. (1966)IID 13	19-31,33,34 & draft veg oils	28.022-023 1975	Cd 8-53 1973	6th Edition (1978)2.501	ISO 3960	-			BS684 : 1976 2.14
11.	MATTER VOLATILE AT 105°C	IUPAC 5th Ed (1966) IIC 1.1	19-31,33,34 & draft veg oils	28.002 1975	Ca 2c - 25 Ca 2b - 38 Ca 2d - 25 1973	6th Edition (1978)2.601	ISO/R 662 ISO/R 933	-			BS684 : 1976 1.10
12.	INSOLUBLE IMPURITIES	IUPAC 5th Ed. (1966)IIC 2	19-31,33,34 & draft veg oils	-	Ca 3-46 1973	6th Edition (1978) 2.604	ISO/R 663 ISO/R 932	-			BS684 : 1976 2.3

MRS

No	METHOD TITLE	REF IN STANDARD	STANDARDS IN WHICH CITED	AOAC	AOCS	IUPAC	ISO	CAC/RM	100C	EEC	BSI
13.	SOAP CONTENT (QUANTITATIVE)	CAC/RM 13-1969	19-31,34 & draft veg.oils	-	Cc 15 - 60 1977	-	-	AS IN STANDARDS			BS684 : 1976 2.5 *AMD2652 July 1978
14.	SOAP TEST (QUALITATIVE)	CAC/RM 27-1970	33	-	-	-	-	AS IN STANDARD		COMMISSION REG (EEC) No1058/77 ANNEX V1	-
15.	IRON CONTENT	CAC/RM 14-1969	19-32,34 & draft veg oils and RFM	-	Ca 15 - 75 1976 (AAS method)	-	-	AS IN STANDARDS	-		BS684 : 1976 2.17 [2.18-AAS METHOD]
16.	COPPER CONTENT	AOAC (1965) 24.023-028	19-32,34 & draft veg oils and RFM	25.035-040 1975	Ca 15 - 75 1976 (AAS method)	-	-	GENERAL AAS METHOD UNDER DISCUSSION IN CXMAS	-		BS684 : 1976 2.16 [2.18 AAS method]
17.	LEAD CONTENT	AOAC(1965)24.053 (24.008,009,043j, 046-048)	19-32,34 & draft veg oils and RFM	25.098 (25.060-064 AAS) 1975	-	-	-	GENERAL AAS METHOD UNDER DISCUSSION IN CXMAS	-		-
18.	ARSENIC CONTENT	AOAC(1965)24.011-014, 016-017, 006-008	19-32, 34 & draft veg oils and RFM	25,006-008 012 - 013 1975	-	-	-	-	-		-
19.	PREP.OF FATTY ACID METHYL ESTERS (5)	IUPAC 4th* Supp.5th Ed.IID 19 (1976)	20-31,33,34 and draft veg. oils	28.057-060 1975	Ce 2 - 66 1973	6th Edition (1978) 2.301	ISO/DIS 5509	-		COMMISSION REG (EEC) No 72/77 ANNEX VI	BS684 [2.34]
20.	ANALYSIS BY GLC OF FATTY ACID METHYL ESTERS (5)	IUPAC 4th* Supp.5th Ed. IID 25 (1976)	20-31,33,34 & draft veg oils	28.063-067 1975	Ce 1 - 62 1975	6th Edition (1978) 2.302	ISO/DIS 5508	-		COMMISSION REG (EEC) No 72/77 ANNEX VI	BS684 : [2.35]
21.	PEANUT OIL TEST (EVERS)	CAC/RM 11-1969	21	-	-	-	-	AS IN STANDARD	-		BS684 : 1978 2.31
22.	PEANUT OIL TEST (RENARD)	AOAC(1965)26.077	21	28.100 1975	-	-	-	-	-		-
23.	HALPHEN TEST	AOCS Cb 1-25	22	28.095 1975	Cb 1-25 1973	-	-	-	-		BS684 :1978 2.29
24.	COTTONSEED OIL TEST	CAC/RM 23-1970	33	28.095 1975	Cb 1-25 1973	-	-	AS IN STANDARD			BS684 : 1978 2.29

JB

No	METHOD TITLE	REF. IN STANDARDS	STANDARDS IN WHICH CITED	AOAC	AOCS	IUPAC	ISO	CAC/RM	IOOC	EEC	BSI
25.	CRISMER VALUE	AOCS Cb 4-35	24	-	Cb 4-35 1973	-	-	-	-		-
26.	SESAME OIL TEST (BAUDOIN)	CAC/RM 12-1969	26	-	-	-	-	AS IN STANDARD	-		BS 684 : 1978 2.30
27.	SESAME OIL TEST (VILLAVECCHIA)	AOCS Cb 2-40	26	28.105 1975	Cb 2-40 1973	-	-	-	-		-
28.	SESAME OIL TESTS A AND B	CAC/RM 25-1970	33	METHOD A 28.105 1975	METHOD A Cb 2-40 1973	-	-	-			-
29.	TITRE	IUPAC 5th Ed. 1966 II B 3.1, 3.2, II A 2	28-31	28.012-014 1975	Cc 12-59 1973	6th Edition (1978) 2.121	ISO/R 935	-	-		BS 684 : 1976 1.6
30.	MILK FAT CONTENT	CAC/RM 15-1969	32+ draft RFM	-	-	-	ISO/R 1211 ISO 2446 ISO 3889	AS IN STANDARDS	-		-
31.	FAT CONTENT	CAC/RM 16-1969	32+ draft RFM	16.188-189 1975	-	-	-	AS IN STANDARDS	-		-
32.	WATER CONTENT	/CAC/RM17-1969/	32+ draft RFM	16.187 1975	-	-	ISO 934	AS TO BE INCLUDED IN STANDARDS	-		-
33.	VITAMIN A CONTENT	AOAC (1965) 39.001-007	32+ draft RFM	43.001-007 1975	-	-	-	-	-		-
34.	VITAMIN D CONTENT	AOAC (1965) 39.116 - 129	32+ draft RFM	43.166-179 1975	-	-	-	-	-		-
35.	VITAMIN E CONTENT	CAC/RM 18-1969	32, 33+ draft RFM	43.064-072 1975	-	-	-	AS IN STANDARDS (33 UNDER REVIEW)	UNDER REVIEW		-
36.	SODIUM CHLORIDE CONTENT	CAC/RM 19-1969	32+ draft RFM	16.191 1975	-	-	-	AS IN STANDARDS (UNDER REVIEW)	-		-
37.	BELLIER INDEX	CAC/RM 20-1969	33	28.101-103 1975	-	-	-	AS IN STANDARDS	UNDER REVIEW	COMMISSION REG No 1058/77 ANNEX V A	-

JB

No.	METHOD TITLE	REF. IN STANDARDS	STANDARDS IN WHICH CITED	AOAC	AOCS	IUPAC	ISO	CAC/RM	IOOC	EEC	BSI
38.	SEMI-SICCATIVE OIL TEST	CAC/RM 21-1970	33	-	-	-	-	AS IN STANDARD	UNDER REVIEW		-
39.	OLIVE RESIDUE TEST	CAC/RM 22-1970	33	-	-	-	-	AS IN STANDARD		COMMISSION REG (EEC) 1058/77 ANNEX V	-
40.	TEASEED OIL TEST	CAC/RM 24-1970	33	28.104 1975	Cb 3-39 1973	-	-	AS IN STANDARD			-
41.	SPECIFIC EXTINCTION	CAC/RM 26-1970	33	-	-	6th Edition (1978) 2.505	ISO 3656	AS IN STANDARD		COMMISSION REG (EEC) 1058/77 ANNEX I, III	BS 684:1978 [1.15] (Animal fats only)
42.	FATTY ACIDS IN POSITION 2 (5)	IUPAC 4th* Supp. 5th Ed (1976) II D 27	33	-	-	6th Edition (1978) 2.210	draft doc. as IUPAC IID27	-		COMMISSION REG (EEC) 1058/77 ANNEX VII	BS 684 [2.39]
43.	STEROLS (5)	IUPAC 4th* Supp. 5 Ed (1976) II C 8	33+ draft LEAR	28.072-28.093 1975	-	6th Edition (1978) 2.403	draft doc. as IUPAC IIC8	-		COMMISSION REG (EEC) 1058/77 ANNEX VIII	BS 684: [2.38]
44.	ALLYL ISOTHIOCYANATE CONTENT	CAC/RM 10-1969	34	-	-	-	draft doc. DP 5505	AS IN STANDARD	-		-
45.	DETERMINATION OF PRESERVATIVES	TO BE DEVELOPED	draft RFM	20.019-020+ 20.097-099 1975	-	-	-	-	-		-
46.	REICHERT VALUE	TO BE DEVELOPED	draft coconut, palm kernel, and babassu oils	28.036-037 1975	Part of Cd 5-40 1973	6th Edition (1978) 2.204.8.1	-	Part of CAC/RM 15-1969	-		Part of BS 684: 1976 2.11
47.	POLENSKE VALUE	TO BE DEVELOPED	draft coconut, palm kernel, and babassu oils	28.036-037 1975	Part of Cd 5-40 1973	6th Edition (1978) 2.204.8.1,8.2	-	Part of CAC/RM 15-1969	-		Part of BS 684: 1976 2.11
48.	ERYTHRODIOL CONTENT	TO BE DEVELOPED	draft grape-seed oil	-	-	-	-	-	-		-

Notes:
(1) It is assumed that blank entries from IOOC signify general agreement with the presently cited Codex method.
(2) EEC column unchecked as at September 1978: a reply is awaited.
(3) In method 2 "Relative Density", IUPAC 4th Edition method quoted determines "Density".
(4) Square brackets around BSI references indicate "method under development".
(5) Starred references in standards (methods 19, 20, 42, 43) await endorsement by CXMAS.

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APPENDIX XI

FATTY ACID COMPOSITION OF FATS AND OILS

RANGES REFER TO TYPICAL COMMERCIAL SAMPLES OF BONA FIDE FATS AND OILS

Fatty Acid	Arachis	Cottonseed	Lard and Rendered Pork Fat	Maize	Mustardseed	Premier Jus and Edible Tallow	Safflowerseed	Sesameseed	Soyabean	Sunflowerseed	Olive	Low Erucic Acid Rapeseed	Coconut	Palm	Palm Kernel	Grapeseed	Babassu	Rapeseed
C 6:0													< 1.2		<0.5			To be developed
C 8:0													3.4-15		2.4-6.2		2.6-7.3	
C10:0													3.2-15		2.6-7.0		1.2-7.6	
C12:0													41-56	< 1.2	41-55	<0.5	40-55	
C < 14	<0.4	< 0.1	<0.5	<0.1	< 0.5	<2.5	<0.1	<0.1	<0.1	<0.4								
C14:0	<0.6	0.4-2.0	0.5-2.5	<0.1	< 1.0	1.4-7.8	<1.0	<0.5	<0.5	<0.5	<0.05	< 0.2	13-23	0.5-5.9	14-20	<0.3	11-27	
C14:ISO						<0.3												
C14:1			< 0.2			0.5-1.5												
C15:0			<0.1			0.5-1.0												
C15:ISO			<0.1			< 1.5												
C15:ANTI ISO																		
C16:0	6.0-16	17-31	20-32	8.0-19	0.5-4.5	17-37	2.0-10	7.0-12	7.0-14	3.0-10	7.5-20	2.5-6.0	4.2-12	32-59	6.5-11	5.5-11	5.2-11	
C16:1	<1.0	0.5-2.0	1.7-5.0	< 0.5	<0.5	0.7-8.8	<0.5	<0.5	<0.5	<1.0	0.3-3.5	< 0.6		<0.6		<1.2		
C16:2						<1.0												
C16:ISO			<0.1			<0.5												
C17:0	<0.1		<0.5			0.5-2.0												
C17:1	<0.1		<0.5			<1.0												
C17:ISO						< 1.5												
C17:ANTI ISO																		
C18:0	1.3-6.5	1.0-4.0	5.0-24	0.5-4.0	0.5-2.0	6.0-40	1.0-10	3.5-6.0	1.4-5.5	1.0-10	0.5-3.5	0.9-2.1	1.0-4.7	1.5-8.0	1.3-3.5	3.0-6.0	1.8-7.4	
C18:1	35-72	13-44	35-62	19-50	8.0-23	26-50	7.0-42	35-50	19-30	14-65	56-83	50-66	3.4-12	27-52	10-23	12-28	9.0-20	
C18:2	13-45	33-59	3.0-16	34-62	10-24	0.5-5.0	55-81	35-50	44-62	20-75	3.5-20	18-30	0.9-3.7	5.0-14	0.7-54	58-78	1.4-6.6	
C18:3	< 1.0	0.1-2.1	<1.5	< 2.0	6.0-18	< 2.5	< 1.0	<1.0	4.0-11	<0.7	<1.5	6.0-14		<1.5		<1.0		
C20:0	1.0-3.0	< 0.7	<1.0	< 1.0	< 1.5	< 0.5	<0.5	<1.0	<1.0	< 1.5	TR.	0.1-1.2		<1.0		< 1.0		
C20:1	0.5-2.1	< 0.5	<1.0	<0.5	5.0-13	< 0.5	<0.5	<0.5	<1.0	<0.5	TR.	0.1-4.3						
C20:2			<1.0		< 1.0													
C20:4			<1.0			< 0.5												
C22:0	1.0-5.0	<0.5	<0.1	< 0.5	0.2-2.5		<0.5	<0.5	<0.5	<1.0	TR.	< 0.5				<0.3		
C22:1	<2.0	<0.5			22-50					< 0.5		≤ 5.0						
C22:2					< 1.0													
C24:0	0.5-3.0	<0.5		<0.5	<0.5					<0.5	TR.	< 0.2				<0.1		
C24:1					0.5-2.5					< 0.5								