

DEPARTMENT OF AGRICULTURE, FORESTRY AND FISHERIES**No. R.**

dd/mm/yy

AGRICULTURAL PRODUCT STANDARDS ACT, 1990 (ACT No. 119 OF 1990)

REGULATIONS REGARDING THE GRADING, PACKING AND MARKING OF EDIBLE VEGETABLE OILS INTENDED FOR SALE IN THE REPUBLIC OF SOUTH AFRICA

The Minister of Agriculture, Forestry and Fisheries has under section 15 of the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990) --

- (a) made the regulations in the Schedule; and
- (b) determined that the said regulations shall come into operation 12 months after date of publication thereof.

SCHEDULE**Contents****Regulation**

PART I: GENERAL STANDARDS APPLICABLE TO EDIBLE VEGETABLE OILS	
Definitions	1
Scope of regulations	2
Restrictions on the sale of edible vegetable oils	3
Requirements for containers and outer containers	4
Marking of containers and outer containers	5
Indicating the applicable product designation	6
Additions to the product designation	7
'Best before' date	8
Batch indication	9
Country of origin	10
'On tap' edible vegetable oils	11
Use of Geographical Indications (GIs)	12
Restricted particulars on containers	13
Offences and penalties	14
PART II: SPECIFIC STANDARDS FOR OLIVE OILS AND OLIVE- POMACE OILS	
Definitions	15
Grades of olive oil and olive pomace oils	16
Standards for grades	17
Additional composition parameters	18
Food additives.	19
PART III: SPECIFIC STANDARDS FOR EDIBLE VEGETABLE OILS OTHER THAN OLIVE OILS AND OLIVE- POMACE OILS	
Definitions	20
Essential composition and quality factors	21
Food additives	22
PART IV: SAMPLING, ANALYSIS AND ORGANOLEPTIC ASSESSMENT OF EDIBLE VEGETABLE OILS	
Definitions	23
Sampling – General	24
Obtaining a Primary sample (Retail & Bulk containers)	25 - 26
Methods of analysis	27
Analysis results	28
Assessment of the organoleptic characteristics of olive oils and olive-pomace oils	29
Annexure A: List of protected Geographical Indications (GIs) for edible vegetable oils	

PART I**GENERAL STANDARDS APPLICABLE TO EDIBLE VEGETABLE OILS****Definitions**

1. In these regulations any word or expression to which a meaning has been assigned in the Act shall have that meaning and, unless the context indicates otherwise --

"address" means a physical address and includes the street or road number or street name and the name of the town, village or suburb and, in the case of a farm, the name or number of the farm and of the magisterial district in which it is situated, or in the case of imported foodstuffs, if otherwise, the name and address as provided for in the Codex Alimentarius Commission's document entitled: *General Standard for the Labelling of Pre-packaged Foods, CODEX STAN 1-1985*;

"batch" means a definite quantity of edible vegetable oil produced essentially under the same conditions and which do not exceed a period of 24 hours;

"cold pressed" means the process by which natural edible vegetable oil is extracted by pressing the seed or fruit with a mechanical, hydraulic or centrifugal press at a temperature that does not lead to significant thermal alterations;

"consignment" means a quantity of edible vegetable oils belonging to the same owner, that is delivered at any one time under cover of the same consignment note, delivery note or receipt note, or is delivered by the same vehicle;

"container" means the immediate container in which edible vegetable oils are packed for sale to the consumer, and shall where applicable include the separate or secondary outer casing/housing/box (made from carton or any other material) in which an immediate container is packed for individual sale to the consumer (e.g. each bottle of olive oil is presented for sale in a separate box);

"edible vegetable oils" means oils intended for human consumption and which are composed primarily of glycerides of fatty acids being obtained only from vegetable sources: Provided that they may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in the oil;

"Executive Officer" means the officer designated under section 2(1) of the Act;

"flavouring" means a flavouring substance as defined in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972);

"food additive" means an enrichment substance, supplement or any other substance as permitted for in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972), which may be added to a foodstuff to effect its keeping quality, consistency, colour, taste, flavour, smell or other technical property (these substances include but is not limited to acids, bases, salts, preservatives, antioxidants, anti-caking agents, colourants, flavourings, emulsifiers, stabilisers and thickeners);

"foodstuff" means a foodstuff as defined by the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972);

"geographical indication" (GI) means an indication (name) as defined in the regulations relating to the protection of geographical indications used on agricultural products intended for sale in the Republic of South Africa;

"inspector" means the executive officer or an officer under his or her control, or an assignee or an employee of an assignee;

"main panel" means that part of the container or outer container that bears the brand or trade name of the product in greatest prominence, or any other part of the container or outer container that bears the brand or trade name in equal prominence;

"odour" or "aroma" means a volatilized chemical compound, generally at a very low concentration, that is perceived by olfaction;

"organoleptic assessment" means an evaluation by a panel of trained tasters of the flavour and odour characteristics of the oil;

"oxidation" means the degradation of the quality of oil by chemical reactions involving oxygen;

"outer container" means a container in which more than one container of edible vegetable oil is packed;

"sterols" (also known as 'steroid alcohols') means a subgroup of steroids with a hydroxyl group at the 3-position of the A-ring. [Sterols comprise one group of several minor constituents of oils that are characteristic indicators of the authenticity of the olive oil.];

"trade mark" means a trade mark as defined by the Trade Marks Act, 1993 (Act No. 194 of 1993);

"trans fatty acid" means all the geometrical isomers of mono-unsaturated and polyunsaturated fatty acids having one or more non-conjugated carbon-carbon double bond in the trans configuration interrupted by at least one methylene group;

"the Act" means the Agricultural Product Standards Act, 1990 (Act No. 119 of 1990); and

"virgin oil" means oil that is obtained, without altering the nature of the oil, by mechanical procedures, (e.g. expelling or pressing) and the application of heat only: Provided that it may have been purified by washing with water, settling, filtering and centrifuging only.

Scope of regulations

2. These regulations shall apply to the edible vegetable oils defined in Part II and Part III only which are intended for sale in the Republic of South Africa to which and under circumstances in which a prohibition in terms of section 3 of the Act regarding the sale of edible vegetable oils apply.

Restrictions on the sale of edible vegetable oils

3. (1) No person shall sell edible vegetable oils in the Republic of South Africa --
- (a) unless the olive oils and olive-pomace oils are graded and presented according to the grades referred to in regulation 16, Part II;
 - (b) unless the edible vegetable oils other than olive oils and olive-pomace oils are presented according to the types referred to in regulation 20, Part III;
 - (c) unless the olive oils and olive-pomace oils comply with the relevant standards and additional compositional parameters for each grade referred to in regulations 17 and 18, Part II;
 - (d) unless the edible vegetable oils other than olive oils and olive-pomace oils comply with essential composition and quality factors for each type referred to in regulation 21, Part III;
 - (e) unless the containers and outer containers in which such products are packed, comply with the requirements referred to in regulation 4, Part I;
 - (f) unless such products are marked with the particulars and in the manner prescribed in regulation 5 to 12, Part I; and

- (g) if such products are marked with particulars and in a manner so prescribed as particulars with which it may not be marked.

(2) The Executive Officer may grant written exemption, entirely or partially, to any person on such conditions as he or she deems necessary, from the provisions of sub-regulation (1).

(3) The restrictions set out in sub-regulation (1) shall not apply to edible vegetable oils intended for industrial use as an ingredient in the manufacture of another foodstuff.

- (4) (a) The Geographical Indications (GIs) listed in Annexure A and which have been registered with the Executive Officer in terms of the regulations relating to the protection of geographical indications used on agricultural products intended for sale in the Republic of South Africa, may only be used on the particular edible vegetable oil originating from the corresponding country.
- (b) Any direct or indirect commercial use of the GIs listed in Annexure A is prohibited as specified in the regulations relating to the protection of geographical indications used on agricultural products intended for sale in the Republic of South Africa.

Requirements for containers and outer containers

4. (1) A container in which edible vegetable oils is packed shall --
 - (a) be made from a material that --
 - (i) is suitable for this purpose;
 - (ii) will minimize the deterioration of the edible vegetable oil quality; and
 - (iii) will not impart any undesirable taste or flavour to the contents thereof;
 - (b) be so strong that it will not be damaged or deformed during normal storage, handling and transport practices;
 - (c) be closed properly in a manner permitted by the nature thereof.
- (2) If containers containing edible vegetable oils are packed in outer containers, such outer containers shall --
 - (a) be intact, clean, neat, suitable and strong enough; and
 - (b) not impart any undesirable taste or flavour to the contents thereof.
- (3) In the case of olive oils or olive-pomace oils defined in Part II, different grades shall not be packed in the same outer container.
- (4) In the case of edible vegetable oils other than olive oils or olive-pomace oils defined in Part II, different types of vegetable oils shall not be packed in the same outer container.

Marking of containers and outer containers

5. (1) Each container containing edible vegetable oils shall be clearly and legibly marked and at least in English with the following particulars:
 - (a) **The applicable product designation (i.e. grade designation or type),** prominently on the main panel in letters of the same type, colour and font, and on

a contrasting background in a letter size of at least 2 mm in height for lower case vowels.

- (b) **The additions to the product designation (i.e. grade designation or type)** where applicable, prominently on the main panel in letters of the same type, colour and font, and on a contrasting background in a letter size of at least 2 mm in height for lower case vowels: Provided that the difference in letter size between the smallest letter in the class designation indication and smallest letter in the additions to the class designation indication shall not exceed 2 mm.
- (c) **The name and address** of the manufacturer, packer, importer, seller or person or entity on whose behalf the product has been packed in a letter size of at least 1 mm in height. Provided that in the case where it is not possible to use the physical address a postal address with a telephone number may be used.
- (d) **The nett contents** of the edible vegetable oils packed therein in the manner prescribed in the Legal Metrology Act, 2014 (Act No. 9 of 2014).
- (e) **The ingredients list**, where applicable, in the manner prescribed in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).
- (f) **The "best before" date** and the **batch code** or **batch number** in the manner prescribed in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).
- (g) **The country or countries of origin** in a letter size of at least 1 mm in height.

(2) Outer containers in which more than one container of edible vegetable oils is packed shall be marked at least with the following particulars:

- (a) The information referred to in sub-regulation (1) (a), (b) and (g).
- (b) The number of containers (individual units) contained therein in the manner prescribed in the Legal Metrology Act, 2014 (Act No. 9 of 2014).

Indicating the applicable product designation

6. (1) In the case of edible olive oils and olive-pomace oils, the following permitted product designation for the grade of oil concerned (as defined in regulations 16 and 17, Part II), shall be indicated:

- (a) Extra virgin olive oil;
- (b) Virgin olive oil;
- (c) Refined olive oil;
- (d) Olive oil – When composed of a blend of refined and virgin (or extra virgin) olive oils;
- (e) Refined olive-pomace oil; or
- (f) Olive-pomace oil – When composed of a blend of refined olive-pomace oils and virgin (or extra virgin) olive oils.

(2) In the case of edible vegetable oil other than olive oils and olive-pomace oils that consists of only one type of oil, the product designation shall be indicated as “(naming the source) oil”: Provided that the term “vegetable” may in addition form part of the product designation. (E.g. ‘canola oil’ or ‘canola vegetable oil’, etc.).

- (3) (a) When olive oils or olive-pomace oils are blended with other types of edible vegetable oils, the product designation shall be indicated as "Blend of (the name/s of the specific types of vegetable oil used) and (the grade of olive or olive-pomace oils used)".
- (b) When the olive oils or olive-pomace oils contribute at least 50 per cent or more to the blend, the product designation prescribed in paragraph (a) shall immediately be followed by the per cent of olive oils or olive-pomace oils contained in the blend concerned.

(4) When edible vegetable oils other than olive oils or olive-pomace oils are blended, the product designation shall be indicated as "Blend of (the names of the specific types of vegetable oil used)": Provided that the specific names of the types of vegetable oil used may be substituted by the wording "vegetable oil" only if a complete ingredients list appears on the container.

(5) No word or expression may be bigger than the applicable product designation unless it is a registered trade mark or brand name.

Additions to the product designation

7. (1) If a flavouring has been added to an edible vegetable oil in order to render a distinctive flavour thereto, the applicable product designation shall either be preceded by the expression "X Flavoured" or followed by the expression "with X Flavour" or "with X Flavouring", where "X" indicates the name(s) of the flavouring(s) used.

(2) If a foodstuff has been added to an edible vegetable oil in order to render a distinctive taste thereto, the applicable product designation shall be followed by the expression "with X", or wording having a similar meaning, where "X" indicates the generic name(s) of the foodstuff(s) added (e.g. "with chilli", "with garlic cloves", etc.): Provided that the requirements on Quantitative Ingredient Declarations (QUID), as specified in the regulations published under the Foodstuffs, Cosmetics and Disinfects Act, 1972 (Act No. 54 of 1972), shall be complied with.

(3) In the case of olive oils and olive-pomace oils, the following optional descriptive wording may either form part of the grade designation, or may be indicated on its own on the container (or both): Provided that the claim can be substantiated and does not mislead the consumer:

- (a) The specific country or region or locality from where the oil originates, e.g. South African, Spain, Tuscany, etc.
- (b) The character of the oil, e.g. fruity, mellow, robust, etc.
- (c) The processing method, e.g. cold pressed, first extraction, etc.: Provided that the restrictions in regulation 13(8) and (9) shall be kept in mind when using these claims.
- (4) (a) When a single type edible vegetable oil has been modified or hydrogenated, the applicable product designation shall include the word "modified" or "hydrogenated", as appropriate. (E.g. 'hydrogenated canola oil', 'modified palm kernel oil', etc.).
- (b) When a blend consists of two or more edible vegetable oils and one or more of them has been modified or hydrogenated, the applicable product designation shall include the word "modified" or "hydrogenated", as appropriate. (E.g. 'canola oil and modified sunflower oil', 'blend of modified vegetable oil', etc.).

(5) Words communicating the intended use or purpose of the edible vegetable oil concerned may optionally be indicated, and may either form part of the product designation, or may be indicated on its own on the container (or both), e.g. cooking, frying, etc.

'Best before' date

8. (1) The "best before" date shall be indicated in the manner prescribed in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972): Provided that in the case of edible olive oils and olive-pomace oils --

- (a) no best before date greater than two years from the date of packaging shall be displayed; and
- (b) in the case of the grade extra virgin olive oil, the best before date shall reflect --
 - (i) for the Southern hemisphere: A date not later than August, two years after the harvest date; and
 - (ii) for the Northern hemisphere: A date not later than February, two years after the harvest date.

(2) In the case of edible olive oils and olive-pomace oils, the best before date shall be supported by technical evidence. Methods used to determine oil durability may include the following:

- (a) Oil oxidative stability index.
- (b) Fatty acid profile and antioxidant content.

Batch identification

9. (1) Each container containing edible vegetable oils shall be clearly marked with the batch code or batch number in such a way that the specific batch is easily identifiable and traceable.

Country of origin

10. (1) The country of origin shall be declared as follows on every container:

- (a) "Product of (name of country)" if all the main ingredients, processing and labour used to make the product are from one specific country;
- (b) "Produced in (name of country)", "Processed in (name of country)", "Manufactured in (name of country)", "Made in (name of country)", or wording having a similar meaning, when the product is processed in a second country which changes its nature; or
- (c) In the case where single ingredient agricultural commodities are imported in bulk and where owing to climatic, seasonal or other contingencies more than one country may be the source of the single ingredient agricultural commodity, the wording 'Product of (name(s) of country(ies))' separated by the expression 'and/or', shall be declared on the label of the final pre-packed foodstuff: Provided that the final end product remains a single ingredient agricultural commodity.

(2) The words "Packed in (name of country)" may be used in addition to the requirements of sub-regulation (1)(a) or (b).

'On tap' edible vegetable oils

11. (1) In the case of olive oils and olive-pomace oils, only the grades olive oil (composed of a blend of refined olive oil and virgin or extra virgin olive oil) or olive-pomace oil (composed of a blend of refined olive-pomace oils and virgin or extra virgin olive oils) may be dispensed and sold from a tank or

other storage unit (i.e. 'on tap'): Provided that the tank or other storage unit shall be marked in the immediate vicinity of the tap with the appropriate product designation as prescribed in regulation 6(1) in a letter size of at least 50 mm in height.

(2) Edible vegetable oil other than olive oils and olive-pomace oils may be dispensed and sold from a tank or other storage unit (i.e. 'on tap'): Provided that the tank or other storage unit shall be marked in the immediate vicinity of the tap with the appropriate product designation as prescribed in regulation 6(2) in a letter size of at least 50 mm in height.

(3) If the edible vegetable oils permitted to be dispensed and sold from a tank or other storage unit have been--

- (a) flavoured or a foodstuff has been added in order to render a distinctive flavour or taste thereto, the marking requirements referred to in regulation 7(1) and (2) respectively shall be complied with; or
- (b) when a single type edible vegetable oil has been modified or hydrogenated, the applicable product designation shall include the word "modified" or "hydrogenated", as appropriate. (E.g. 'hydrogenated canola oil', 'modified palm kernel oil', etc.), and when a blend consists of two or more edible vegetable oils and one or more of them has been modified or hydrogenated, the applicable product designation shall include the word "modified" or "hydrogenated", as appropriate. (E.g. 'canola oil and modified sunflower oil', 'blend of modified vegetable oil', etc.).

Use of Geographical Indications (GIs)

12. (1) Containers and outer containers containing virgin olive oils may use names that are registered and in use in their country of origin as Geographical Indications (country, region or locality) and where such virgin olive oils have been produced, processed and packed exclusively in the country, region or locality mentioned.

(2) A registered South African GI for virgin olive oils may in addition show the permitted designation or corresponding acronym, as prescribed in the regulations relating to the protection of geographical indications used on agricultural products intended for sale in the Republic of South Africa, in the immediate vicinity thereof.

(3) Imported virgin olive oils presented for sale under a registered foreign GI may show any GI symbol(s), designations and acronyms approved for use for such purpose by the competent authority in the country of origin concerned.

Restricted particulars on containers

13. (1) No product designation other than the designation applicable to the specific edible vegetable oil contained in a container, shall be marked on such a container.

(2) The claims "lite", "light", "extra light", "reduced", or any other words having a similar meaning, shall not be marked on a container containing edible vegetable oils.

(3) No adjective of any kind, such as but not limited to "real", "genuine", "selected", "pure", "premium", "finest", "super", etc., shall be used together with the product designations prescribed for edible vegetable oils.

(4) No registered trade mark or brand name which may possibly, directly or by implication, be misleading or create a false impression of the contents of a container containing edible vegetable oils shall appear on such a container.

(5) No word, mark, illustration, depiction or other method of expression that constitutes a misrepresentation or directly or by implication creates or may create a misleading impression regarding

the quality, nature, grade, origin or composition of edible vegetable oils shall be marked on a container of such product.

(6) No claim regarding the absence of any substance that does not normally occur in the edible vegetable oil concerned shall be marked on the container thereof, except in cases where it is allowed for in the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).

(7) In the case of olive oils or olive-pomace oils blended with other edible vegetable oils, and where the olive oil present in the blend is less than 50 per cent, the depiction of olives, olive leaves or olive trees, or any other wording used to emphasise the presence of the olive oils or olive-pomace oils in the blend shall not be allowed on the container.

(8) The indication "first cold pressing", "cold pressing", or any other wording having a similar meaning, may be used only for the grades known as extra virgin olive oil or virgin olive oil obtained from a first mechanical pressing of the olive paste by using a mechanical, hydraulic or centrifugal press at a temperature that does not lead to significant thermal alterations in the oil.

(9) The indication "cold extraction", "cold crushed", or any other wording having a similar meaning, may be used only for the grades known as extra virgin olive oil or virgin olive oil obtained by any mechanical or other physical means at a temperature that does not lead to significant thermal alterations in the oil.

(10) The harvesting year may only appear on a container containing olive oils or olive-pomace oils if 100 percent of the contents of the container come from that harvest.

(11) The indication of the acidity or maximum acidity may only appear on a container containing olive oils or olive-pomace oils if it is accompanied by an indication, in lettering of the same size and in the same field of view, of the peroxide value, the wax content and the ultraviolet absorption.

(12) The provisions of this regulation shall *mutatis mutandis* apply to--

- (a) an outer container in which one or more containers of edible vegetable oils are packed;
- (b) particulars that are marked on an "on tap" tank or other storage unit;
- (c) particulars that are marked on a notice board displayed at or in the immediate vicinity of edible vegetable oils that are kept or displayed for sale; and
- (d) all advertisements for edible vegetable oils.

Offences and penalties

14. Any person who contravenes or fails to comply with the provisions of these regulations shall be guilty of an offence and upon conviction be liable to a fine or to imprisonment in accordance with section 11 of the Act.

PART II

SPECIFIC STANDARDS FOR OLIVE OILS AND OLIVE-POMACE OILS

Definitions

15. Where specifically used with regard to olive oils and olive-pomace oils --

"absorbency in ultraviolet" means absorbance of a 1 mass/volume fraction solution of the oil in the specified solvent, with reference to a pure solvent in a 1 cm path length cell;

"apparent beta-sitosterol"/"apparent β -sitosterol" means the sum of the concentrations of β -sitosterol, Δ -5-avenasterol, Δ -5,23-stigmastadienol, Δ -5,24-stigmastadienol, cholesterol and sitostanol;

"cold extraction"/"cold extracted" means the process by which natural olive oil is obtained by separating the oil by means of centrifugation at a temperature that does not lead to thermal alterations;

"diacylglycerol" (DAG) means a glyceride consisting of two fatty acid chains covalently bonded to a glycerol molecule through ester linkages. In virgin olive oils, DAGs are present in a range of 1% to 3% and they are found as 1,2- and 1,3- isomers;

"equivalent carbon number 42" (ECN 42) means the difference between the theoretical value of triacylglycerols (TAGs) with an equivalent carbon number of 42 (ECN 42_{theoretical}), calculated from the fatty acid composition, and the analytical results (ECN 42_{HPLC}) obtained by determination in the oil by high performance liquid chromatography (HPLC);

"erythrodiol" and "uvaol" means triterpene dialcohol found in olive oil and olive-pomace oil;

"first extraction" means the initial mechanical process to separate the oil from the olive paste by centrifugation, decantation or pressing, but does not include the second extraction or solvent extraction processes utilized to physically or chemically separate the oil remaining in the pomace;

"flavour" means the sensory impression of oil, determined mainly by the senses of taste and smell: Provided that in the case of olive oil it refers to the typical flavour of olive oil produced from olives and the degree of positive or negative attributes;

"free fatty acid content" (FFA) means the content of free fatty acids in g/100 g, expressed as a percentage of free oleic acid;

"initial glyceridic structure" means the pattern of mono-, di- and tri-glycerides present in natural olive oils or crude olive-pomace oils as extracted prior to any refining process;

"malaxing" means the slow mechanical mixing of the olive paste prior to separating the oil with the objective of breaking emulsions and improving oil extraction;

"median of defects" means a calculation of the median score of a panel of tasters who assess and characterize the olive oil's negative flavour and odour attributes;

"median of fruitiness" means a calculation of the median score from a panel of tasters who assess the intensity of the positive fruity characteristics of the olive oils;

"negative attributes" means any flavour or odour that derives from enzymatic degradation, fermentation, or microbial spoilage of olives prior to processing, fermentation of olive matter following extraction, subsequent excessive oxidation, or any other character that could not be reasonably assigned to the natural flavours derived from the olive, and shall include --

- (a) defects known as 'fusty', 'muddy sediment', 'musty', 'rancid' and 'winey-vinegary' which are defined as follows:
- (i) **Fusty**
Means a flavour defect attributable to poor storage conditions of the olives.
 - (ii) **Muddy sediment**
Means a flavour defect caused by storage in contact with oil sediment for long periods.
 - (iii) **Musty**
Means a flavour defect occurring when low temperatures and high humidity promote mould growth.
 - (iv) **Rancid**
Means a flavour defect caused by the oxidation of the oil and subsequent formation of aldehydes during the production process giving the oil an oxidized flavour and odour.
 - (v) **Winey-vinegary**
Means a flavour defect caused by storage condition of the olives that causes aerobic fermentation by the growth of yeasts that produce ethanol, acetic acid, and ethyl acetate; and
- (b) other defects such as but not limited to 'heated or burnt', 'hay-wood', 'rough', 'greasy', 'vegetable water', 'brine', 'metallic', 'esparto', 'grubby' and 'cucumber' which are defined as follows:
- (i) **Heated or Burnt**
Means the characteristic flavour of oils caused by excessive and/ or prolonged heating during processing, particularly when the paste is thermally mixed, if this is done under unsuitable thermal conditions.
 - (ii) **Hay-wood**
Means the characteristic flavour of certain oils produced from olives that have dried out.
 - (iii) **Rough**
Means the thick, pasty mouthfeel sensation produced by certain old oils.
 - (iv) **Greasy**
Means the flavour of oil reminiscent of that of diesel oil, grease or mineral oil.
 - (v) **Vegetable water**
Means the flavour acquired by the oil as a result of prolonged contact with vegetable water which has undergone fermentation processes.
 - (vi) **Brine**
Means the flavour of oil extracted from olives which have been preserved in brine.
 - (vii) **Metallic**
Means the flavour that is reminiscent of metals. It is characteristic of oil which has been in prolonged contact with metallic surfaces during crushing, mixing, pressing or storage.
 - (viii) **Esparto**
Means the characteristic flavour of oil obtained from olives pressed in new esparto mats. The flavour may differ depending on whether the mats are made of green esparto or dried esparto.

- (ix) **Grubby**
Means the flavour of oil obtained from olives which have been heavily attacked by the grubs of the olive fly (*Bactrocera oleae*).
- (x) **Cucumber**
Means the flavour produced when an oil is hermetically packed for too long, particularly in tin containers, and which is attributed to the formation of 2,6 nonadienal;

"olive oil" means oil that is obtained from the fruit of the olive tree (*Olea europaea* L.), and excludes oils that are obtained using solvents or re-esterification processes and any mixture with other kinds of oils;

"olive oils and olive-pomace oils" means edible natural olive oils, refined olive oils and olive-pomace oils;

"olive-pomace" means pulp that remains after the first extraction or pressing and that still contains olive oil;

"peroxide value" means a measure of the oxidation of olive oil, expressed as a milliequivalents (meq) of active oxygen per kilogram of oil;

"positive attributes" means a flavour or odour such as 'fruity', 'bitter' and 'pungent' which are defined as follows:

- (a) **Fruity**
Means a set of olfactory sensations characteristic of the oil which depends on the variety and comes from sound, fresh olives, either ripe or unripe.
- (b) **Bitter**
Means the characteristic, primary taste of oil obtained from green olives or olives turning colour.
- (c) **Pungent**
Means a biting tactile sensation characteristic of oils produced at the start of the crop year, primarily from olives that are still unripe;

"pyropheophytin a" means the thermal or age related degradation product of chlorophyll a;

"refining" means a process in which oil undergoes treatment using but not limited to the following:

- (a) heat (typically stripping steam);
- (b) or chemicals (typically caustic soda or sodium carbonate) in combination with heat; and
- (c) soft column refining, also sometimes known as deodorization, which is a type of refining using lower temperatures under vacuum often used to neutralize flavour and aroma.

"triglyceride" or "triacylglycerol" (TAG) means the major component of oil, that is an ester of three fatty acids and glycerol; and

"wax content" means minor component of olive oil that is found in the skin of the olive fruit.

Grades of olive oils and olive-pomace oils

16. The grades of olive oils and olive-pomace oils are as follows:

(1) Natural olive oils:

Natural olive oils are olive oils obtained solely by mechanical or other physical means under conditions, including thermal conditions, that do not lead to alterations in the oil, and which have not undergone any treatment other than washing, crushing, malaxing, decantation, pressing, centrifugation and filtration.

(a) Natural olive oils fit for consumption without further processing:

- (i) **Extra virgin olive oil;** and
- (ii) **Virgin olive oil.**

(b) Natural olive oils not fit for consumption without further processing:

- (i) **Lampante olive oil.**

(2) Refined olive oils:

Refined olive oils are the olive oils obtained from natural oils by refining methods which do not lead to alterations in the initial glyceridic structure.

(a) Refined olive oils fit for consumption without further processing:

- (i) **Refined olive oil;** and
- (ii) **Olive oil – Composed of a blend of refined and virgin (or extra virgin) olive oils.**

(3) Olive-pomace oils:

Olive-pomace oils are the oils obtained by treating olive-pomace with solvents or other physical treatments, excluding oils obtained by re-esterification processes and any mixture with oils of other kinds with the exception of olive oils.

- (a) **Crude olive-pomace oil;**
- (b) **Refined olive-pomace oil;** and
- (c) **Olive-pomace oil – Composed of a blend of refined olive-pomace oil and virgin (or extra virgin) olive oils.**

Standards for grades

17. The standards for grades of olive oils and olive-pomace oils are as follows:

(1) Natural olive oils:**(a) Extra virgin olive oil --**

- (i) shall have a free acidity, expressed as free oleic acid, of not more than 0.8 g/100 g;
- (ii) shall have a median of defects equal to 0; and
- (iii) has other characteristics that correspond to those fixed for this grade in regulation 18.

(b) **Virgin olive oil --**

- (i) shall have a free acidity, expressed as free oleic acid, of not more than 2.0 g/100 g;
- (ii) shall have a median of defects equal to or less than 2.5; and
- (iii) has other characteristics that correspond to those fixed for this grade in regulation 18.

(c) **Lampante olive oil --**

- (i) shall have a free acidity, expressed as free oleic acid, of more than 2.0 g/100 g;
- (ii) shall have a median of defects higher than 2.5; and
- (iii) has other characteristics that correspond to those fixed for this grade in regulation 18.

(2) **Refined olive oils:**(a) **Refined olive oil --**

- (i) shall have a free acidity, expressed as free oleic acid, of not more than 0.3 g/100 g; and
- (ii) has other characteristics that correspond to those fixed for this grade in regulation 18.

(b) **Olive Oil – Composed of a blend of refined and virgin (or extra virgin) olive oils --**

- (i) shall consist of refined olive oil blended with natural olive oils fit for consumption, namely virgin or extra virgin olive oils;
- (ii) shall have a free acidity, expressed as free oleic acid, of not more than 1.0 g/100 g;
- (iii) shall have a median of defects equal to or less than 2.5; and
- (iv) has other characteristics that correspond to those fixed for this grade in regulation 18.

(3) **Olive-pomace oils:**(a) **Crude olive-pomace oil --**

- (i) shall consist of olive-pomace oil whose characteristics correspond to those fixed for this grade in regulation 18; and
- (ii) shall be refined before it can be used for human consumption.

(b) **Refined olive-pomace oil --**

- (i) shall consist of oil obtained from crude olive-pomace oil by refining methods that do not lead to alterations in the initial glyceridic structure;

- (ii) shall have a free acidity, expressed as free oleic acid, of not more than 3.0 g/100 g; and
 - (iii) has other characteristics that correspond to those fixed for this grade in regulation 18.
- (c) **Olive-pomace oil – Composed of a blend of refined olive-pomace oils and virgin (or extra virgin) olive oils --**
 - (i) shall consist of refined olive-pomace oil blended with natural olive oils fit for consumption, namely virgin or extra virgin olive oils;
 - (ii) shall have a free acidity, expressed as free oleic acid, of not more than 1.0 g/100 g;
 - (iii) shall have a median of defects equal to or less than 2.5; and
 - (iv) has other characteristics that correspond to those fixed for this grade in regulation 18.

Additional composition parameters

18. (1) The different grades of olive oils or olive-pomace oils shall in addition to the standards set out in regulation 17 also comply with the composition parameters set out in Tables 1- 4 below.

(2) The limits established for each compositional parameter take account of the precision values of the respective recommended methods of analysis specified in regulation 27(2), Part IV.

TABLE 1
GENERIC CHEMICAL COMPOSITION PARAMETERS

Parameter		Edible natural olive oils	Lampante olive oil	Refined olive oil	Olive oil – Composed of a blend of refined and virgin (or extra virgin) olive oils	Crude olive-pomace oil	Refined olive-pomace oil	Olive-pomace oil – Composed of a blend of refined olive-pomace oils and virgin (or extra virgin) olive oils
Total sterol content (mg/kg)		≥ 1000	≥ 1000	≥ 1000	≥ 1000	≥ 2500	≥ 1800	≥ 1600
Wax content (C40 + C42 + C44 + 46) (mg/kg)		≤ 250	≤ 300 (See Note 1)	≤ 350	≤ 350	> 350 (See Note 2)	> 350	> 350
Trans fatty acid content (%)	C18:1 T %	≤ 0.05	≤ 0.10	≤ 0.20	≤ 0.20	≤ 0.20	≤ 0.40	≤ 0.40
	C18:2 T + C18:3 T %	≤ 0.05	≤ 0.10	≤ 0.30	≤ 0.30	≤ 0.10	≤ 0.35	≤ 0.35
Maximum difference between the actual and theoretical ECN 42 triacylglycerol content		≤ /0.2/	≤ /0.3/	≤ /0.3/	≤ /0.3/	≤ /0.6/	≤ /0.5/	≤ /0.5/
Stigmastadienes content (mg/kg)		≤ 0.10	≤ 0.50	-	-	-	-	-
Content of 2-glyceryl monopalmitate (%)		≤ 0.15	≤ 0.15	≤ 0.18	≤ 2.2	≤ 2.2	≤ 2.2	≤ 2.2

NOTES:

1. When the oil has a wax content between 300 mg/kg and 350 mg/kg, it is considered a lampante olive oil if the erythrodiol + uvaol content is ≤ 3.5% and the total aliphatic alcohol content is ≤ 350 mg/kg.
 2. When the oil has a wax content between 300 mg/kg and 350 mg/kg, it is considered a crude olive-pomace oil if the erythrodiol + uvaol content is > 3.5% and the total aliphatic alcohol content is > 350 mg/kg.
- Not applicable

TABLE 2

**FATTY ACID COMPOSITION
(EXPRESSED AS % M/M METHYL ESTERS)**

Fatty acid	Composition (% of total methyl esters)
Myristic acid (C14:0)	≤ 0.05
Palmitic acid (C16:0)	7.0 – 20.0
Palmitoleic acid (C16:1)	0.3 – 3.5
Heptadecanoic acid (C17:0)	≤ 0.3
Heptadecenoic acid (C17:1)	≤ 0.4
Stearic acid (C18:0)	0.5 – 5.0
Oleic acid (C18:1)	53.0 – 85.0
Linoleic acid (C18:2)	2.5 – 22.0
Linolenic acid (C18:3)	≤ 1.5
Arachidic acid (C20:0)	≤ 0.6
Gadoleic acid (eicosenoic) (C20:1)	≤ 0.5
Behenic acid (C22:0)	≤ 0.2 (See Note 1)
Lignoceric acid (C24:0)	≤ 0.2

NOTE:

1. The value is ≤ 0,3 for olive-pomace oils.

TABLE 3

**STEROL AND TRITERPENE DIALCOHOLS COMPOSITION
(EXPRESSED AS % OF TOTAL STEROLS)**

Sterol and triterpene dialcohol	Composition (% of total sterols)
Cholesterol	≤ 0.5
Brassicasterol	≤ 0.2 (for olive-pomace oils) ≤ 0.1 (for other grades)
Campesterol	≤ 4.8
Stigmasterol	≤ 1.9
Delta-7-stigmasterol	≤ 0.5
Apparent beta-sitosterol	≥ 92.5
Erythrodiol + uvaol (olive oils)	≤ 4.5
Erythrodiol + uvaol (olive-pomace oils)	> 4.5

TABLE 4
QUALITY LIMITS

Parameter		Grades							
		Extra virgin olive oil	Virgin olive oil	Lampante olive oil (See Note 1)	Refined olive oil	Olive oil – Composed of a blend of refined and virgin (or extra virgin) olive oils	Crude olive- pomace oil	Refined olive- pomace oil	Olive-pomace oil – Composed of a blend of refined olive-pomace oil and virgin (or extra virgin) olive oils
Free fatty acid content (FFA) (% mass fraction)		≤ 0.8	≤ 2.0	> 2.0	≤ 0.3	≤ 1.0	-	≤ 0.3	≤ 1.0
Peroxide value (PV) (meq O ₂ /kg oil)		≤ 20.0	≤ 20.0	> 20.0	≤ 5.0	≤ 15.0	-	≤ 5.0	≤ 15.0
Absorbency in ultraviolet	K ₂₃₂ nm	≤ 2.50	≤ 2.60	> 2.60	-	-	-	-	-
	K ₂₇₀ nm	≤ 0.22	≤ 0.25	> 0.25	≤ 1.10	≤ 0.90	-	≤ 2.0	≤ 1.70
	Delta K nm	≤ /0.01/	≤ /0.01/	> /0.01/	≤ /0.16/	≤ /0.15/	-	≤ /0.20/	≤ /0.18
Moisture and volatile matter (% mass fraction)		≤ 0.2	≤ 0.2	≤ 0.3	≤ 0.1	≤ 0.1	≤1.5	≤ 0.1	≤ 0.1
Insoluble impurities (% mass fraction)		≤ 0.1	≤ 0.1	≤ 0.2	≤ 0.1	≤ 0.1	-	≤ 0.1	≤ 0.1
Pyropheophytins a (PPPs) (%)		≤ 17	-	-	-	-	-	-	-
1,2 Diacylglycerols (DAGs) (%)		≥ 35	-	-	-	-	-	-	-
Organoleptic assessment	Median defects (MeD)	= 0.0	0.0 < MeD ≤ 2.5	> 2.5	≤ 2.5	≤ 2.5	-	≤ 2.5	≤ 2.5
	Median of fruitiness (MeF)	> 0.0	> 0.0	-	-	> 0.0	-	-	> 0.0

NOTES:

- The limits given in this column are not required to be concurrent and for lampante olive oil, 1 (one) is sufficient.
- Not applicable

Food additives

19. (1) The following restrictions shall apply with regard to the use of food additives in the processing and production of olive oils and olive-pomace oils:

(a) **Natural olive oils and crude olive-pomace oil:**

- (i) Shall not contain any food additives.

(b) **Refined-olive oil, olive oil (composed of a blend of refined olive oil and virgin or extra virgin olive oil), refined olive-pomace oil and olive-pomace oil (composed of a blend of refined olive-pomace oils and virgin or extra virgin olive oils):**

- (i) Tocopherols may be added to restore the natural tocopherols lost in the refining process up to a maximum level of 200mg/kg of total alpha-tocopherol in the final product.

(c) **Processing aids:**

- (i) Processing aids are allowed to be used during oil extraction to the extent permitted for by the regulations published under the Foodstuffs, Cosmetics and Disinfectants Act, 1972 (Act No. 54 of 1972).

PART III

SPECIFIC STANDARDS FOR EDIBLE VEGETABLE OILS OTHER THAN OLIVE OILS
AND OLIVE-POMACE OILS**Definitions**

20. Where specifically used with regard to edible vegetable oils other than olive oils and olive-pomace oils –

"arachis oil" (also known as 'peanut oil' or 'groundnut oil') means oil derived from groundnuts (seeds of *Arachis hypogaea* L.);

"babassu oil" means oil derived from the kernel of the fruit of several varieties of the palm *Orbignya spp*;

"canola oil" means oil as defined under **"rapeseed oil - low erucic acid"**;

"coconut oil" means oil derived from the kernel of the coconut (*Cocos nucifera* L.);

"cottonseed oil" means oil derived from the seeds of various cultivated species of *Gossypium spp*;

"grapeseed oil" means oil derived from the seeds of the grape (*Vitis vinifera* L.);

"maize oil" (also known as 'corn oil') means oil derived from maize germ (the embryos of *Zea mays* L.);

"mustardseed oil" means oil derived from the seeds of white mustard (*Sinapis alba* L. or *Brassica hirta* Moench), brown and yellow mustard (*Brassica juncea* (L.) Czernajew and Cossen) and of black mustard (*Brassica nigra* (L.) Koch);

"palm kernel oil" means oil derived from the kernel of the fruit of the oil palm (*Elaeis guineensis*);

"palm kernel olein" means the liquid fraction derived from fractionation of palm kernel oil;

"palm kernel stearin" means the solid fraction derived from fractionation of palm kernel oil;

"palm oil" means oil derived from the fleshy mesocarp of the fruit of the oil palm (*Elaeis guineensis*);

"palm olein" means the liquid fraction derived from the fractionation of palm oil;

"palm stearin" means the high-melting fraction derived from the fractionation of palm oil;

"palm superolein" means a liquid fraction derived from palm oil (as defined above) produced through a specially controlled crystallization process to achieve an iodine value of 60 or higher;

"peanut oil" means oil as defined under **"arachis oil"**;

"rapeseed oil" (also known as 'turnip rape oil'; 'colza oil'; 'ravirus oil'; 'sarson oil'; 'toria oil') means oil produced from seeds of *Brassica napus* L., *Brassica rapa* L., *Brassica juncea* L. and *Brassica tournefortii* Gouan species;

"rapeseed oil - low erucic acid" (also known as 'low erucic acid turnip rape oil'; 'low erucic acid colza oil'; 'canola oil') means oil produced from low erucic acid oil-bearing seeds of varieties derived from the *Brassica napus* L., *Brassica rapa* L. and *Brassica juncea* L., species;

"rice bran oil" (also known as 'rice oil') means oil derived from the bran of rice (*Oryza sativa* L.);

"safflowerseed oil" (also known as 'safflower oil'; 'carthamus oil'; 'kurdee oil') means oil derived from safflower seeds (seeds of *Carthamus tinctorius* L.);

"safflowerseed oil - high oleic acid" (also known as 'high oleic acid safflower oil'; 'high oleic acid carthamus oil'; 'high oleic acid kurdee oil') means oil produced from high oleic acid oil-bearing seeds of varieties derived from *Carthamus tinctorious* L;

"sesameseed oil" (also known as 'sesame oil'; 'gingelly oil'; 'benne oil'; 'ben oil'; 'till oil'; 'tillie oil') is derived from sesame seeds (seeds of *Sesamum indicum* L.);

"slip point" (also known as 'open tube melting point') means an index of temperature at which fat softens or becomes sufficiently fluid to slip or run. This method determines the slip point of a sample and is applicable to such fats as coconut oil, stearin, hydrogenated fats and hard tallows;

"soya bean oil" (also known as 'soybean oil') means oil derived from soya beans (seeds of *Glycine max* (L.) Merr.);

"sunflowerseed oil" (also known as 'sunflower oil') means oil derived from the sunflower seeds (seeds of *Helianthus annuus* L.);

"sunflowerseed oil - high oleic acid" (also known as 'high oleic acid sunflower oil') means oil produced from high oleic acid oil-bearing seeds of varieties derived from sunflower seeds (seeds of *Helianthus annuus* L.); and

"sunflowerseed oil - mid oleic acid" (also known as 'mid oleic acid sunflower oil') means oil produced from mid-oleic acid oil-bearing sunflower seeds (seeds of *Helianthus annuus* L.).

Essential composition and quality factors

21. The essential composition and quality factors of edible vegetable oils other than olive oils and olive-pomace oils are as follows:

(1) All Gas Liquid Chromatography (GLC) ranges of fatty acid composition:

- (a) Samples of edible vegetable oils other than olive oils and olive-pomace oils falling within the appropriate ranges specified in Tables 1 and 2 shall be regarded as in compliance with these regulations.
- (b) Supplementary criteria, for example national geographical and/or climatic variations, may where necessary, be considered to confirm that a sample is in compliance with these regulations: Provided that --
 - (i) low-erucic acid rapeseed oil shall not contain more than 2% erucic acid (as % of total fatty acids);
 - (ii) high oleic acid safflower oil shall contain not less than 70% oleic acid (as a % of total fatty acids); and
 - (iii) high oleic acid sunflower oil shall contain not less than 75% oleic acid (as % of total fatty acids).

(2) Standards for slip point:

- (a) Palm kernel olein shall have a slip point of between 21 to 26 °C.
- (b) Palm kernel stearin shall have a slip point of between 31 to 34 °C.
- (c) Palm olein shall have a slip point of not more than 24°C.
- (d) Palm stearin shall not have a slip point of less than 44°C.

- (e) Palm superolein shall have a slip point of not more than 19.5°C.

TABLE 1

FATTY ACID COMPOSITION OF VEGETABLE OILS OTHER THAN OLIVE OILS AND OLIVE-POMACE OILS AS DETERMINED BY GAS LIQUID CHROMATOGRAPHY FROM AUTHENTIC SAMPLES¹ (EXPRESSED AS % OF TOTAL FATTY ACIDS)

Fatty acid	Arachis oil	Babassu oil	Coconut oil	Cotton-seed oil	Grape-seed oil	Maize oil	Mustard-seed oil	Palm oil	Palm kernel oil	Palm olein²	Palm kernel olein²	Palm kernel stearin²
C6:0	ND	ND	ND-0.7	ND	ND	ND	ND	ND	ND-0.8	ND	ND-0.7	ND-0.2
C8:0	ND	2.6-7.3	4.6-10.0	ND	ND	ND	ND	ND	2.6-6.2	ND	2.9-6.3	1.3-3.0
C10:0	ND	1.2-7.6	5.0-8.0	ND	ND	ND	ND	ND	2.6-5.0	ND	2.7-4.5	2.4-3.3
C12:0	ND-0.1	40.0-55.0	45.1-53.2	ND-0.2	ND	ND-0.3	ND	ND-0.5	45.0-55.0	0.1-0.5	39.7-47.0	52.0-59.7
C14:0	ND-0.1	11.0-27.0	16.8-21.0	0.6-1.0	ND-0.3	ND-0.3	ND-0.1	0.5-2.0	14.0-18.0	0.5-1.5	11.5-15.5	20.0-25.0
C16:0	8.0-14.0	5.2-11.0	7.5-10.2	21.4-26.4	5.5-11.0	8.6-16.5	0.5-4.5	39.3-47.5	6.5-10.0	38.0-43.5	6.2-10.6	6.7-10.0
C16:1	ND-0.2	ND	ND	ND-1.2	ND-1.2	ND-0.5	ND-0.5	ND-0.6	ND-0.2	ND-0.6	ND-0.1	ND
C17:0	ND-0.1	ND	ND	ND-0.1	ND-0.2	ND-0.1	ND	ND-0.2	ND	ND-0.2	ND	ND
C17:1	ND-0.1	ND	ND	ND-0.1	ND-0.1	ND-0.1	ND	ND	ND	ND-0.1	ND	ND
C18:0	1.0-4.5	1.8-7.4	2.0-4.0	2.1-3.3	3.0-6.5	ND-3.3	0.5-2.0	3.5-6.0	1.0-3.0	3.5-5.0	1.7-3.0	1.0-3.0
C18:1	35.0-69	9.0-20.0	5.0-10.0	14.7-21.7	12.0-28.0	20.0-42.2	8.0-23.0	3.5-6.0	1.0-3.0	3.5-5.0	1.7-3.0	1.0-3.0
C18:2	12.0-43.0	1.4-6.6	1.0-2.5	46.7-58.2	58.0-78.0	34.0-65.6	10.0-24.0	9.0-12.0	1.0-3.5	10.0-13.5	2.4-4.3	0.5-1.5
C18:3	ND-0.3	ND	ND-0.2	ND-0.4	ND-1.0	ND-2.0	6.0-18.0	ND-0.5	ND-0.2	ND-0.6	ND-0.3	ND-0.1
C20:0	1.0-2.0	ND	ND-0.2	0.2-0.5	ND-1.0	0.3-1.0	ND-1.5	ND-1.0	ND-0.2	ND-0.6	ND-0.5	ND-0.5
C20:1	0.7-1.7	ND	ND-0.2	ND-0.1	ND-0.3	0.2-0.6	5.0-13.0	ND-0.4	ND-0.2	ND-0.4	ND-0.2	ND-0.1
C20:2	ND	ND	ND	ND-0.1	ND	ND-0.1	ND-0.1	ND	ND	ND	ND	ND
C22:0	1.5-4.5	ND	ND	ND-0.6	ND-0.5	ND-0.5	0.2-2.5	ND-0.2	ND-0.2	ND-0.2	ND	ND
C22:1	ND-0.3	ND	ND	ND-0.3	ND-0.3	ND-0.3	22.0-50.0	ND	ND	ND	ND	ND
C22:2	ND	ND	ND	ND-0.1	ND	ND	ND-0.1	ND	ND	ND	ND	ND
C24:0	0.5-2.5	ND	ND	ND-0.1	ND-0.4	ND-0.5	ND-0.5	ND	ND	ND	ND	ND
C24:1	ND-0.3	ND	ND	ND-0.1	ND	ND	0.5-2.5	ND	ND	ND	ND	ND

NOTE:ND - non detectable, defined as $\leq 0.05\%$ ¹ Data taken from species as listed in the definitions and ² Fractionated product from palm oil.

FATTY ACID COMPOSITION OF VEGETABLE OILS OTHER THAN OLIVE OILS AND OLIVE-POMACE OILS AS DETERMINED BY GAS LIQUID CHROMATOGRAPHY FROM AUTHENTIC SAMPLES¹ (EXPRESSED AS % OF TOTAL FATTY ACIDS) - CONTINUED

Fatty acid	Palm stearin²	Palm super olein²	Rape-seed oil	Rapeseed oil (low erucic acid)	Rice bran oil	Safflower-seed oil	Safflower - seed oil (high oleic acid)	Sesame-seed oil	Soya-bean oil	Sunflower-seed oil	Sunflower-seed oil (high oleic acid)	Sunflower-seed oil (mid-oleic acid)
C6:0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C8:0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C10:0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
C12:0	0.1-0.5	0.1-0.5	ND	ND	ND-0.2	ND	ND-0.2	ND	ND-0.1	ND-0.1	ND	ND
C14:0	1.0-2.0	0.5-1.5	ND-0.2	ND-0.2	ND-1.0	ND-0.2	ND-0.2	ND-0.2	ND-0.2	ND-0.2	ND-0.1	ND-1
C16:0	48.0-74.0	30.0-39.0	1.5-6.0	2.5-7.0	14-23	5.3-8.0	3.6-6.0	7.9-12.0	8.0-13.5	5.0-7.6	2.6-5.0	4.0-5.5
C16:1	ND-0.2	ND-0.5	ND-0.3	ND-0.6	ND-0.5	ND-0.2	ND-0.2	ND-0.2	ND-0.2	ND-0.3	ND-0.1	ND-0.05
C17:0	ND-0.2	ND-0.1	ND-0.1	ND-0.3	ND	ND-0.1	ND-0.1	ND-0.2	ND-0.1	ND-0.2	ND-0.1	ND-0.05
C17:1	ND-0.1	ND	ND-0.1	ND-0.3	ND	ND-0.1	ND-0.1	ND-0.1	ND-0.1	ND-0.1	ND-0.1	ND-0.06
C18:0	3.9-6.0	2.8-4.5	0.5-3.1	0.8-3.0	0.9-4.0	1.9-2.9	1.5-2.4	4.5-6.7	2.0-5.4	2.7-6.5	2.9-6.2	2.1-5.0
C18:1	15.5-36.0	43.0-49.5	8.0-60.0	51.0-70.0	38-48	8.4-21.3	70.0-83.7	34.4-45.5	17.0-30.0	14.0-39.4	75-90.7	43.1-71.8
C18:2	3.0-10.0	10.5-15.0	11.0-23.0	15.0-30.0	21-42	67.8-83.2	9.0-19.9	36.9-47.9	48.0-59.0	48.3-74.0	2.1-17	18.7-45.3
C18:3	ND-0.5	0.2-1.0	5.0-13.0	0.1-2.9	ND-1.0	ND-1.2	0.2-1.0	4.5-11.0	ND-0.3	ND-0.3	ND-0.3	ND-0.5
C20:0	ND-1.0	ND-0.4	ND-3.0	0.2-1.2	ND-0.9	0.2-0.4	0.3-0.6	0.3-0.7	0.1-0.6	0.1-0.5	0.2-0.5	0.2-0.4
C20:1	ND-0.4	ND-0.2	3.0-15.0	0.1-4.3	ND-0.8	0.1-0.3	0.1-0.5	ND-0.3	ND-0.5	ND-0.3	0.1-0.5	0.2-0.3
C20:2	ND	ND	ND-1.0	ND-0.1	ND	ND	ND	ND	ND-0.1	ND	ND	ND
C22:0	ND-0.2	ND-0.2	ND-2.0	ND-0.6	ND-1.0	ND-1.0	ND-0.4	ND-1.1	ND-0.7	0.3-1.5	0.5-1.6	0.6-1.1
C22:1	ND	ND	>2.0-60.0	ND-2.0	ND-0.3	ND-1.8	ND-0.3	ND	ND-0.3	ND-0.3	ND-0.3	ND
C22:2	ND	ND	ND-2.0	ND-0.1	ND	ND	ND-0.1	ND	ND	ND-0.3	ND	ND-0.09
C24:0	ND	ND	ND-2.0	ND-0.3	ND-0.9	ND-0.2	ND-0.3	ND-0.3	ND-0.5	ND-0.5	ND-0.5	0.3-0.4
C24:1	ND	ND	ND-3.0	ND-0.4	ND	ND-0.2	ND-0.3	ND	ND	ND	ND	ND

NOTE:

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

¹ Data taken from species as listed in the definitions and ² Fractionated product from palm oil.

TABLE 2

CHEMICAL AND PHYSICAL CHARACTERISTICS OF CRUDE VEGETABLE OILS OTHER THAN OLIVE OILS AND OLIVE-POMACE OILS

Quality factors	Arachis oil	Babassu oil	Coconut oil	Cotton seed oil	Grape-seed oil	Maize oil	Mustard-seed oil	Palm oil	Palm kernel oil	Palm kernel olein ²	Palm kernel stearin ²	Palm olein ²
Relative density (x °C/ water at 20°C)	0.912-0.920 x=20°C	0.914-0.917 x=25°C	0.908-0.921 x=40°C	0.918-0.926 x=20°C	0.920-0.926 x=20°C	0.917-0.925 x=20°C	0.910-0.921 x=20°C	0.8910-899 x=50°C	0.899-0.914 x=40°C	0.906-0.909 x=40 °C	0.902-0.908 x=40°C	0.899-0.920 x=40°C
Apparent density (g/ml)								0.889-0.895 at 50°C		0.904-0.907	0.904-0.906	0.896-0.898 at 40°C
Refractive index (ND 40°C)	1.460-1.465	1.448-1.451	1.448-1.450	1.458-1.466	1.467-1.477	1.465-1.468	1.461-1.469	1.454-1.456 at 50°C	1.448-1.452	1.451-1.453	1.449-1.451	1.458-1.460
Saponification value (mg KOH/g oil)	187- 196	245- 256	248- 265	189- 198	188-194	187- 195	168-184	190-209	230-254	231-244	244-255	194-202
Iodine value	86- 107	10- 18	6.3-10.6	100-123	128-150	103-135	92-125	50.0-55.0	14.1-21.0	20-28	4- 8.5	≥ 56
Unsaponifiable matter (g/kg)	≤ 10	≤ 12	≤ 15	≤ 15	≤ 20	≤ 28	≤ 15	≤ 12	≤ 10	≤ 15	≤ 15	≤ 13

NOTE:

² Fractionated product from palm oil.

CHEMICAL AND PHYSICAL CHARACTERISTICS OF CRUDE VEGETABLE OILS OTHER THAN OLIVE OILS AND OLIVE- POMACE OILS (CONTINUED)

Quality factors	Palm stearin ²	Palm superolein ²	Rape-seed oil	Rape-seed oil (low erucic acid)	Rice bran oil	Safflower-seed oil	Safflower-seed oil (high oleic acid)	Sesame-seed oil	Soya-bean oil	Sunflower-seed oil	Sunflower-seed oil (high oleic acid)	Sunflower-seed oil (mid-oleic acid)
Relative density (x °C/ water at 20°C)	0.881- 0.891 x=60°C	0.900- 0.925 x=40°C	0.910- 0.920 x=20°C	0.914- 0.920 x=20°C	0.910- 0.929	0.922- 0.927 x=20°C	0.913- 0.919 x=20°C 0.910- 0.916 x=25°C	0.915- 0.924 x=20°C	0.919- 0.925 x=20°C	0.918- 0.923 x=20°C	0.909- 0.915 x=25°C	0.914- 0.916 x=20°C
Apparent density (g/ml)	0.881- 0.885 at 60°C	0.897- 0.920					0.912- 0.914 at 20°C					
Refractive index (ND 40°C)	1.447- 1.452 at 60°C	1.463- 1.465	1.465- 1.469	1.465- 1.467	1.460- 1.473	1.467- 1.470	1.460- 1.464 at 40°C 1.466- 1.470 at 25°C	1.465- 1.469	1.466- 1.470	1.461- 1.468	1.467- 1.471 at 25°C	1.461- 1.471 at 25°C
Saponification value (mg KOH/g oil)	193- 205	180-205	168- 181	182- 193	180-199	186- 198	186- 194	186-195	189-195	188-194	182-194	190-191
Iodine value	≤ 48	≥ 60	94- 120	105- 126	90- 115	136- 148	80- 100	104-120	124-139	118-141	78- 90	94- 122
Unsaponifiable matter (g/kg)	≤ 9	≤ 13	≤ 20	≤ 20	≤ 65	≤ 15	≤ 10	≤ 20	≤ 15	≤ 15	≤ 15	≤ 15
Stable carbon isotope ratio* for Maize oil is -13.71 to -16.36												

NOTE:

² Fractionated product from palm oil.

Food additives

22. (1) No additives shall be used in the processing and production of virgin and cold pressed edible vegetable oils other than olive oils and olive-pomace oils.

PART IV

SAMPLING, ANALYSIS AND ORGANOLEPTIC ASSESSMENT OF EDIBLE VEGETABLE OILS

Definitions

23. Where specifically used with regard to sampling, analysis and organoleptic assessment of edible vegetable oils –

"bulk container" means a large tank, metal drum or food grade tote or vat, or any other suitable container used for the storage and/or transport of edible vegetable oils in bulk; and

"operator" means a person who engages in the operation of marketing vegetable oils that he or she has produced, or purchased or acquired from a vegetable oil producer, or that he or she is marketing on behalf of a vegetable oil producer, whether as an owner, agent, employee, broker, or otherwise.

Sampling - General

24. (1) (a) Samples for the verification of the characteristics of edible vegetable oils shall be taken in accordance with the latest version of the International Standards Organisation's standard on sampling of animal and vegetable fats and oils (i.e. 'ISO 5555: 2001'), or any other alternative international recognised method.
- (b) Samples taken shall be kept in a dark place and away from strong heat as quickly as possible and sent to the laboratory for analysis no later than 5 working days from the date of sampling. Samples shall furthermore be kept in such a way that they will not degrade or damage during transport or storage prior to being sent to the laboratory.
- (2) (a) Inspectors shall carry out conformity checks selectively based on a risk analysis, and with appropriate frequency, so as to ensure that the edible vegetable oil marketed is consistent with the grade or type declared.
- (b) The criteria to assess the risk of an operator may include --
- (i) The grade or type of vegetable oil, the period of production, the price of the vegetable oil concerned in relation to other vegetable oils, the blending and packing operations, the storage facilities and conditions, the country of origin, the means of transport or the volume of the batch;
 - (ii) the position of the operator in the marketing chain, the volume and/or value marketed by him or her, the range of vegetable oils he or she market, the type of business carried out such as milling, storage, refining, blending, packaging or retail sale;
 - (iii) findings made during previous checks, including the number and type of defects found, the usual quality of vegetable oils marketed, the performance of technical equipment used;
 - (iv) the reliability of the operators' quality assurance systems or self-checking systems related to the conformity to the standards set out in these regulations;
 - (v) the place where the check is carried out, in particular if it is the first point of entry in the case of imported vegetable oils, or the place where the

vegetable oils are produced, packaged, loaded or sold to the final consumer; and

- (vi) any other information that might indicate a risk of non-compliance.
- (3) (a) At least one conformity check per thousand tonnes of a particular edible vegetable oil marketed in the Republic of South Africa shall be carried out within a twelve month period.
- (b) Where conformity checks reveal significant irregularities, inspectors shall increase the frequency of checks in relation to marketing stage, oil grade or type, origin, or any other criteria.

Obtaining a Primary Sample

Retail containers

25. (1) Notwithstanding regulation 24(1)(a) above, and more specific section 6.8 in the latest version of the 'ISO 5555: 2001' standard, batches of edible vegetable oils packed in containers with a capacity not exceeding 5 litres as well as with a capacity of more than 5 litres and which are intended for sale to the consumer, shall be sampled as set out in sub-regulations (2) and (3) respectively.

Containers with a capacity not exceeding 5 litres

- (2) (a) A primary sample for containers not exceeding 5 litres shall consist of the number of containers taken from a batch as set out in Table 1 below:

TABLE 1

MINIMUM SIZE OF A PRIMARY SAMPLE

Where the container has a capacity of --	The primary sample shall comprise the oil from --
(i) less than 1 litre; or	(i) the minimum number of containers that will result in a combined total volume of at least 1 litre; or
(ii) 1 litre to 5 litres.	(ii) 1 container

- (b) Each container shall be suitably sealed to ensure the product is tamper-proof.
- (c) The samples shall be clearly labelled to ensure correct identification.
- (d) The number of containers referred to in column 2 of Table 1 which shall constitute a primary sample, may be increased to also provide enough additional edible vegetable oil olive oil or olive-pomace oil to perform e.g. organoleptic assessment by a different laboratory from that which performed the chemical analyses, counter-analysis, etc.

Containers with a capacity of more than 5 litres

- (3) (a) A primary sample for containers exceeding 5 litres shall consist of a representative part of the total number of containers in the batch, obtained by a process of reduction as set out in Table 2 below:

TABLE 2

MINIMUM NUMBER OF CONTAINERS TO BE SELECTED AS THE PRIMARY SAMPLE

Total number of containers in the batch	Minimum number of containers to be selected
Up to 10	1
11 to 150	2
151 to 500	3
501 to 1 500	4
1 501 to 2 500	5
>2 500: for every 1000 additional containers	1 additional container

- (b) The content of the samples obtained in terms of Table 2 shall be homogenised for the preparation of the primary sample by pouring the contents of each container into a common container and stirring it, so that it will be best protected from air.
- (c) The content of the primary sample shall then be poured into a series of smaller containers with a minimum capacity of 1 litre, each one of which shall represent a primary sample.
- (d) Each container shall be filled in such a way to minimise the air layer on top, and shall then be suitably closed and sealed to ensure the product is tamper-proof.
- (e) Each sample shall be clearly labelled to ensure correct identification.
- (f) The number of containers referred to in column 2 of Table 2 which shall constitute a primary sample, may be increased to also provide enough olive oil or olive-pomace oil to perform e.g. organoleptic assessment by a different laboratory from that which performed the chemical analyses, counter-analysis, etc.

Bulk containers

26. (1) In the case of edible vegetable oils stored or transported in bulk containers, sampling shall be performed in accordance with the method set out in section 6 of the latest version of the 'ISO 5555: 2001' standard, or any other alternative international recognised method.

Methods of analysis**General**

27. (1) The test samples shall be prepared in accordance with the latest version of the International Standards Organisation's standard on the preparation of test samples for animal and vegetable fats and oils (i.e. 'ISO 661: 2003'), or any other alternative international recognised method.

Olive oils and olive-pomace oils

(2) The determination of the characteristics for natural olive oils, refined olive oils or olive-pomace oils shall be done in accordance with the methods set out in Table 3 below, or any other

international recognised alternative methods providing equivalent results: Provided that at all times the most recently published version of the listed methods or their alternatives shall be used:

TABLE 3
RECOMMENDED TEST METHODS TO DETERMINE THE QUALITY OF
OLIVE OILS AND OLIVE-POMACE OILS

Parameter	Test method
Absorbency in ultraviolet	ISO 3656 or AOCS Ch 5-91 or IOC/T.20/Doc.19. Rev.2.
Alpha – tocopherol	ISO 9936 or relevant AOAC and AOCS methods
Content of 2-glyceryl monopalmitate	IOC/T.20/Doc. 23
Difference between the actual and theoretical ECN 42 triglyceride content	AOCS Ce 5b-89 or IOC/T.20/Doc. 20. Rev.3
Content of erythrodiol + uvaol	IUPAC no. 2.431. Capillary columns are recommended or IOC/T.20/Doc. 30.
Fatty acid composition (See Note 1)	AOAC 996.06
Trans fatty acid content (See Note 1)	AOAC 996.06
Free fatty acid content (grams percentage of oleic acid)	AOCS Ca 5a-40
Insoluble impurities in light petroleum	ISO 663, or AOCS Ca 3a-46
Moisture and volatile matter	ISO 662 or AOCS Ca 2c-25
Peroxide value	AOCS Cd 8b-90 or ISO 3960
Pyropheophytins (See Note 1)	ISO 29841 Reverse phase high performance liquid chromatography (HPLC) method
Sterol composition and total sterol content	ISO 12228 or IOC/T.20/Doc. 10.Rev.1 or AOCS Ch 6-91
Stigmastadienes content	AOCS Cd 26-96 or IOC/T.20/Doc. 11.Rev.2
1,2 – Diacylglycerol (DAG) content	ISO 29822 or AOAC and AOCS recommended methods by gas chromatography or by latroscan using thin layer chromatography flame ionization detection (TLC- FID)
Wax content	AOCS Ch 8-02 (Rev.2007) or IOC/T.20/Doc. 18.Rev.2.

NOTES:

1. Prescribed derivatizing agent and column length.

Edible vegetable oils other than olive oils and olive-pomace oils

(3) The determination of the characteristics for edible vegetable oils other than olive oils or olive-pomace oils shall be done in accordance with the methods set out in Table 4 below, or any other international recognised alternative methods providing equivalent results: Provided that at all times the most recently published version of the listed methods or their alternatives shall be used:

TABLE 4

**RECOMMENDED TEST METHODS TO DETERMINE THE QUALITY OF EDIBLE
VEGETABLE OILS OTHER THAN OLIVE OIL AND OLIVE-POMACE OIL**

Parameter	Test method
GLC ranges of fatty acid composition	ISO 5508: 1990 and 5509: 2000 AOCS Ce 2-66 (97), Ce 1e-91 (01) or Ce 1f-96 (02)
Slip point	ISO 6321: 2002 for all oils AOCS Cc 3b-92 (02) for all oils except for palm oils AOCS Cc 3-25 (97) equivalent method AACC 158-53.01 for palm oils only.
Moisture and volatile matter at 105°C	ISO 662: 1998
Insoluble impurities	ISO 663: 2000
Soap content	BS 684 Section 2.5; or AOCS Cc 17-95 (97)
Relative density	IUPAC 2.101, with the appropriate conversion factor
Apparent density	ISO 6883: 2000, with the appropriate conversion factor; or AOCS Cc 10c-95 (02)
Refractive index	ISO 6320: 2000; or AOCS Cc 7-25 (02)
Saponification value (SV)	ISO 3657: 2002; or AOCS Cd 3-25 (03)
Iodine value (IV)	Wijs - ISO 3961: 1996; or AOAC 993.20; or AOCS Cd 1d-1992 (97); or NMKL 39(2003) The method to be used for specific named vegetable oils is stipulated in the Standard.
Unsaponifiable matter	ISO 3596: 2000; or ISO 18609: 2000; or AOCS Ca 6b-53 (01)
Peroxide value (PV)	AOCS Cd 8b-90 (03); or ISO 3960: 2001
Total carotenoids	BS 684 Section 2.20.
Acidity	ISO 660: 1996, amended 2003; or AOCS Cd 3d-63 (03)
Sterol content	ISO 12228: 1999; or AOCS Ch 6-91 (97)
Tocopherol content	ISO 9936: 1997; or AOCS Ce 8-89 (97)
Halphen test	AOCS Cb 1-25 (97)
Crismer value	AOCS Cb 4-35 (97) and AOCS Ca 5a-40 (97)
Baudouin test (modified Villavecchia test or sesame seed oil test)	AOCS Cb 2-40 (97)
Reichert value and Polenske value	AOCS Cd 5-40 (97)

Analysis results

28. (1) Where all the results of the analysis comply with the characteristics of the grade or type of edible vegetable of oil declared, the whole batch shall be regarded as compliant.

(2) If a single result of the analysis does not comply with the characteristics of the grade or type of edible vegetable of oil declared, the whole batch shall be regarded as non-compliant.

Assessment of the organoleptic characteristics of olive oils and olive pomace-oils

29. (1) The evaluation of the organoleptic characteristics of olive oils and olive-pomace oils, excluding crude olive-pomace oil, shall be performed by a panel of trained tasters in accordance with the latest version of International Olive Council's standard, i.e. 'COI/T.20/Doc. 15. Rev.2'.

ANNEXURE A

LIST OF PROTECTED GEOGRAPHICAL INDICATIONS (GIs) FOR EDIBLE VEGETABLE OILS

Country	Product	GI (Name)	Effective date of protection
France	Olive oil	Huile d'olive de Haute-Provence	1 November 2016
Greece	Olive oil	- Καλαμάτα / Kalamata - Κολυμβάρι Χανίων Κρήτης / Kolymvari Chanion Kritis - Λακωνία / Lakonia - Σητεία Λασιθίου Κρήτης / Sitia Lasithiou Kritis	1 November 2016
Italy	Olive oil	- Toscano - Veneto Valpolicella / Veneto Euganei e Berici / Veneto del Grappa	1 November 2016
Portugal	Olive oil	- Azeite de Moura - Azeite do Alentejo Interior - Azeites da Beira Interior (Azeite da Beira Alta, Azeite da Beira Baixa) - Azeite de Trás-os-Montes - Azeites do Norte Alentejano - Azeites do Ribatejo	1 November 2016
Spain	Olive oil	- Aceite de Terra Alta / Oli de Terra Alta - Aceite del Baix Ebre- Montsià / Oli del Baix Ebre- Montsià - Aceite del Bajo Aragón - Baena - Les Garrigues - Priego de Córdoba - Sierra de Cádiz - Sierra de Cazorla - Sierra de Segura - Sierra Mágina - Siurana	1 November 2016