



**ΠΑΡΑΡΤΗΜΑ ΤΡΙΤΟΝ**  
**ΤΗΣ ΕΠΙΣΗΜΟΥ ΕΦΗΜΕΡΙΔΟΣ ΤΗΣ ΔΗΜΟΚΡΑΤΙΑΣ**  
 υπ' Αρ. 1761 τής 13ης ΜΑΡΤΙΟΥ 1982  
**ΔΙΟΙΚΗΤΙΚΑΙ ΠΡΑΞΕΙΣ**

**ΜΕΡΟΣ Ι**

**Κανονιστικά Διοικητικά Πράξεις**

**Αριθμός 80**

Οί περί Κυπριακών Προτύπων και Ελέγχου Ποιότητας (Καθωρισμένα Πρότυπα — Όγδη Σειρά) Κανονισμοί του 1982, κατατεθέντες εις την Βουλὴν τῶν Ἀντιπροσώπων καὶ ἐγκριθέντες ὑπ' αὐτῆς, δημοσιεύονται εἰς τὴν ἐπίσημον ἐφημερίδα τῆς Κυπριακῆς Δημοκρατίας δυνάμει τοῦ ἐδαφίου (5) τοῦ ἄρθρου 23 τοῦ περὶ Κυπριακῶν Προτύπων καὶ Ελέγχου Ποιότητος Νόμου τοῦ 1975 (Ἄρ. 68 τοῦ 1975).

**ΟΙ ΠΕΡΙ ΚΥΠΡΙΑΚΩΝ ΠΡΟΤΥΠΩΝ ΚΑΙ ΕΛΕΓΧΟΥ ΠΟΙΟΤΗΤΟΣ  
 ΝΟΜΟΙ ΤΟΥ 1975 ΚΑΙ 1977 (68 ΤΟΥ 1975 ΚΑΙ 6 ΤΟΥ 1977)**

Κανονισμοὶ δυνάμει τοῦ ἄρθρου 9

Ὁ Ὑπουργὸς Ἐμπορίου καὶ Βιομηχανίας, ἐνασκῶν τὰς ὑπὸ τοῦ ἄρθρου 9 τῶν περὶ Κυπριακῶν Προτύπων καὶ Ελέγχου Ποιότητος Νόμων τοῦ 1975 καὶ 1977 χορηγουμένας αὐτῷ ἐξουσίας ἐκδίδει τοὺς ἀκολουθοῦντας Κανονισμούς :

1. Οἱ παρόντες Κανονισμοὶ θὰ ἀναφέρονται ὡς οἱ περὶ Κυπριακῶν Προτύπων καὶ Ελέγχου Ποιότητος (Καθωρισμένα Πρότυπα — Όγδη Σειρά) Κανονισμοὶ τοῦ 1982.

2. Διὰ λόγους δημοσίου συμφέροντος τὰ κάτωθι Κυπριακὰ Πρότυπα καθορίζονται ὡς Πρότυπα τὰ ὁποῖα θὰ ἐφαρμόζονται ἄνευ ἐξαιρέσεως καθ' ἅπασαν τὴν Δημοκρατίαν καὶ οὐδεὶς θὰ δύναται, ἐκτὸς ἐὰν τὸ ἐμπόρευμα ἢ τὸ ὕλικόν συμμορφῶται πρὸς τοὺς ὅρους τῶν Προτύπων, νὰ κατασκευάζῃ, πωλῇ ἢ ἄλλως πῶς ἐμπορεύηται ἐμπόρευμα ἢ ὕλικόν καλυπτόμενον ὑπὸ τῶν κάτωθι καθωρισμένων Κυπριακῶν Προτύπων :

CYS 79:1980 — Προδιαγραφὴ διὰ Ἐσώδιμον Φυστικέλαιον.  
 Specification for Edible Arachis Oil.

CYS 80:1980 — Προδιαγραφὴ διὰ Ἐσώδιμον Ἀράβοσιτέλαιον.  
 Specification for Edible Maize Oil.

CYS 81:1980 — Προδιαγραφὴ διὰ Ἐσώδιμον Συναπέλαιον.  
 Specification for Edible Mustard Seed Oil.

- CYS 83:1980 — Προδιαγραφή διὰ Ἐδώδιμον Ραπέλαιον.  
Specification for Rapeseed Oil.
- CYS 84:1980 — Προδιαγραφή διὰ Ἐδώδιμον Σογιέλαιον.  
Specification for Edible Soya Bean Oil.
- CYS 85:1980 — Προδιαγραφή διὰ Ἐδώδιμον Ἡλιοτροπέλαιον.  
Specification for Edible Sunflower Seed Oil.
- CYS 86:1980 — Προδιαγραφή διὰ Ἐδώδιμον Βαμβακέλαιον.  
Specification for Edible Cotton Seed Oil.
- CYS 87:1980 — Προδιαγραφή διὰ Ἐδώδιμον Καρδαμέλαιον.  
Specification for Edible Safflower Seed Oil.
- CYS 88:1980 — Προδιαγραφή διὰ Ἐδώδιμον Σισαμέλαιον.  
Specification for Edible Sesame Seed Oil.
- CYS 90:1980 — Προδιαγραφή διὰ Ἐδώδιμα Ἐλαια καὶ Λίπη.  
Specification for Edible Fats and Oils.

3.0 Ἡ παράγραφος 5 τῶν ἀνωτέρω Προτύπων ἢ ὅποια ἀφορᾷ τὴν ποσότητα πωλήσεως δὲν ἰσχύει. Ὅλα τὰ ἐδώδιμα ἔλαια τὰ ὅποια ἀναφέρονται ἀνωτέρω θὰ διατίθενται πρὸς πώλησιν μόνον εἰς ἐσφραγισμένα δοχεῖα ὑπὸ τοῦ κατασκευαστοῦ τῶν 1, 2, 3, 4, 5, 16 καὶ 20 λίτρων.

3.1 Συσκευασία εἰς δοχεῖα χωρητικότητος μεγαλύτερας τῶν 20 λίτρων θὰ ἐπιτρέπεται νοουμένου ὅτι ὑπάρχει εἰδικὴ συμφωνία μετὰ τοῦ προμηθευτοῦ καὶ ἀγοραστοῦ.

3.2 Δοχεῖα 16 λίτρων, 20 λίτρων καὶ μεγαλύτερας χωρητικότητος θὰ δύνανται νὰ ἐπαναχρησιμοποιοῦνται κατόπιν συνεινησέως ἐμφιαλωτοῦ καὶ προμηθευτοῦ ἐφ' ὅσον ὁ ἐμφιαλωτὴς διαθέτει τὰς ἀπαραιτήτους ἐγκαταστάσεις πλυσίματος καὶ καθαρισμοῦ ἐγκεκριμένας ὑπὸ τοῦ Ἐπιστημονικοῦ Συμβουλίου Τροφίμων.

3.3 Τὰ ὅρια ἀνοχῆς πρέπει νὰ εἶναι ἐκεῖνα ποὺ καθορίζονται εἰς τοὺς περὶ Μέτρων καὶ Σταθμῶν (Συσκευασμένα Ἰαγαθὰ) Κανονισμοὺς τοῦ 1977.

7. Οἱ παρόντες Κανονισμοὶ τίθενται ἐν ἰσχύϊ ὡς ἀκολούθως:

- (1) Διὰ τοὺς κατασκευαστὰς καὶ εἰσαγωγεῖς τὴν 1ην Ἰουνίου, 1982.
- (2) Διὰ τοὺς πωλητὰς, μεταπωλητὰς καὶ καταστηματάρχας τὴν 31ην Δεκεμβρίου, 1982.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE ARACHIS OIL

## 1 SCOPE

This Cyprus standard applies to edible arachis oil.

## 2 DESCRIPTION

Arachis Oil (synonyms: Peanut Oil; Groundnut Oil) is derived from groundnuts (the seeds of *Arachis hypogaea* L).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Arachis oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.914 - 0.917
3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ )	1.460 - 1.465
3.1.3 Saponification Value (mg KOH/g oil)	187 - 196
3.1.4 Iodine Value (Wijs)	80 - 106
3.1.5 Unsaponifiable Matter	not more than 10 g/kg
3.1.6 Arachidic and Higher Fatty Acids Content	not less than 48 g/kg

3.2 Arachis oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.

3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

#### 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 2: Antioxidants

Antioxidant Synergist	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT). Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates, (gallates not exceeding 100 mg/kg)

+ Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglycerate citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level	
4.6.1 Matter volatile at 105°C	0.2% m/m	
4.6.2 Insoluble impurities	0.05% m/m	
4.6.3 Soap content	0.005% m/m	
4.6.4 Iron (Fe) (Virgin oil)	5 mg/kg	
(Non-virgin oil)	1.5 mg/kg	
4.6.5 Copper (Cu) (Virgin oil)	0.4 mg/kg	
(Non-virgin oil)	0.1 mg/kg	
4.6.6 Lead (Pb)	0.1 mg/kg	
4.6.7 Arsenic (As)	0.1 mg/kg	

+ Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amount which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4, and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as arachis oil, peanut oil or groundnut oil must conform to this standard.

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

##### 6.3 List of Ingredients

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

6.3.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

#### 6.4 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

#### 6.5 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

#### 6.6 Country of Origin

6.6.1 The country of origin of the product shall be declared.

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

#### 6.7 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, 'Standard for the Labelling of Prepackaged Foods'.

#### 6.8 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

### 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

## 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.



In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Gelanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with 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, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy.

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_{D,40^{\circ}\text{C}}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Arachidic and Higher Fatty Acids Content

According to the Modified Renard Test, Official Methods of Analysis of the AOAC (1965), 26.077.

Results are expressed as g arachidic acid/kg oil, or According to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM 1101969, Arachis Oil Test (Evers)).

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE MAIZE OIL

## 1 SCOPE

This Cyprus standard applies to edible maize oil.

## 2 DESCRIPTION

Maize oil (synonym: Corn Oil) is derived from maize germ (the embryos of *zea mays* L).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Maize oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.917 - 0.925
3.1.2 Refractive Index ( $n_D^{40°C}$ )	1.465 - 1.468
3.1.3 Saponification Value (mg KOH/g oil)	187 - 495
3.1.4 Iodine Value (Wijs)	103 - 128
3.1.5 Unsaponifiable Matter	not more than 28 g/Kg

3.2 Maize oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.

3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 2: Antioxidants

Antioxidant Synergist	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT) Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocoph- rols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates (gal- lates not exceeding 100 mg/kg)

+Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglycerate citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 135°C	0.2% m/m
4.6.2 Insoluble impurities	0.95% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe) (Virgin oil) (Non-virgin oil)	5 mg/kg 1.5 mg/kg
4.6.5 Copper (Cu) (Virgin oil) Non-virgin oil)	0.4 mg/kg 0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

+ Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 39:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 5 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as maize oil or corn oil must conform to this standard.

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

##### 6.2 List of Ingredients

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



6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods: (CYS 33:1978).

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, "Standard for the Labelling of Prepackaged Foods".

### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

## 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative

density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron, Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperation Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemistry. Carbazate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.006, 24.009, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic Absorption Spectrophotometric methods may also be used, giving the same or better degree of accuracy

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_D^{40^\circ\text{C}}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Halphen Test

The Halphen test shall be in accordance with AOCS method (Official and Tentative Methods of the American Oil Chemists' Society, AOCS Official Method Cb1-25).

Result is expressed as positive or negative.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE MUSTARDSEED OIL

## 1 SCOPE

This Cyprus standard applies to edible mustardseed oil.

## 2 DESCRIPTION

Mustardseed oil is derived from the seeds of the white mustard (*Sinapis alba* L., synonym: *Brassica hirta* Moench) the brown mustard (*Brassica juncea* L., Chern and Coss) and of the black mustard (*Brassica nigra* L., Koch).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Mustardseed oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.910 - 0.921
3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ )	1.461 - 1.469
3.1.3 Saponification Value (mg KOH/g oil)	170 - 184
3.1.4 Iodine Value (Wijs)	92 - 125
3.1.5 Unsaponifiable Matter	not more than 15 g/kg
3.1.6 Allyl Isothiocyanate content	not more than 4 g/kg

3.2 Mustardseed oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.

3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

## 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 2: Antioxidants

Antioxidant Synergist	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT). Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates, (gallates not exceeding 100 mg/kg)

+ Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	Individually or
4.3.4 Monoglycerate citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicon dioxide <sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe) (Virgin oil)	5 mg/kg
(Non-virgin oil)	1.5 mg/kg
4.6.5 Copper (Cu) (Virgin oil)	0.4 mg/kg
(Non-virgin oil)	0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

+ Temporarily endorsed



#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as mustardseed oil must conform to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, 'Standard for the Labelling of Prepackaged Foods'.

### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

## 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative

density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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 millicivalents active oxygen/kg oil.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead(+)

Determination of lead shall be in accordance with 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, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_{D^{40^{\circ}\text{C}}}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Allyl Isothiocyanate Content

Determination of the allyl isothiocyanate content shall be in accordance to the FAO/WHO Codex Alimentarius Method (FAO/WHO Methods of Analysis for Edible Fats and Oils, CAC/RM10-1969, determination of allyl isothiocyanate content).

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE RAPESEED OIL

## 1 SCOPE

This Cyprus standard applies to edible rapeseed oil.

## 2 DESCRIPTION

Rapeseed Oil (synonyms: Turnip Rape Oil; Colza Oil; Ravison Oil; Sarson Oil and Ioria Oil) is derived from the seed of Brassica campestris L., Brassica napus L., Brassica tournefortii Gouan).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Rapeseed oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/water at 20°C) 0.910 - 0.920

3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ ) 1.465 - 1.469

3.1.3 Saponification Value (mg KOH/g oil) 168 - 181

3.1.4 Iodine Value (Wijs) 94 - 120

3.1.5 Unsataponifiable Matter not more than  
28 g/kg

3.1.6 Crismer Value 80 - 85

3.2 Rapeseed oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.

3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	Maximum level of use
4.1.1 Beta-carotene	Not limited
4.1.2 Annatto (+)	Not limited
4.2.3 Curcumin (+)	Not limited
4.1.4 Canthaxanthine	Not limited
4.1.5 Beta-apo-8'-carotenol	Not limited
4.1.6 Methyl and ethyl esters of beta-apo-8'-carotenoic acid	Not limited

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specific levels.

TABLE 2: Antioxidants

Antioxidant	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT). Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates, (gallates not exceeding 100 mg/kg)

+ Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglycerate citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe) (Virgin oil)	5 mg/kg
(Non-virgin oil)	1.5 mg/kg
4.6.5 Copper (Cu) (Virgin oil)	0.4 mg/kg
(Non-virgin oil)	0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

<sup>+</sup> Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any **foreign** and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as rapeseed oil, turnip rape oil, colza oil, ravisson oil, sarson oil or toria oil must conform to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, 'Standard for the Labelling of Prepackaged Foods'.

### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

## 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative

density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pencyprrian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the method for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.053 (and 24.009, 24.009, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_{D,40^{\circ}\text{C}}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3 the Wijs Method).

Unsataponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Determination of Crismer Value ( $I_C$ )

According to the AOCS method (Official and Tentative Methods of the American Chemists Society: AOCS Official Method Cb 4-35, Crismer Test, Fryer and Weston Modification, and Cb 5a - 40, Free Fatty acids, calculating the acidity as oleic acid).

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



NOTE 2:

Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE SOYA BEAN OIL

## 1 SCOPE

This Cyprus standard applies to edible soya bean oil.

## 2 DESCRIPTION

Soya bean oil (synonym: Soyabean oil) is derived from soya beans (the seeds of Glycine max L. merr).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Soyabean oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.919 - 0.925
3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ )	1.466 - 1.470
3.1.3 Saponification Value (mg KOH/g oil)	189 - 195
3.1.4 Iodine Value (Wijs)	120 - 143
3.1.5 Unsaponifiable Matter	not more than 15 g/kg

3.2 Soya bean oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for soya bean oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

Table 2: Antioxidants

Antioxidant Synergist	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT) Butylated hydroxyanisole (BHT)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates (gallates not exceeding 100 mg/kg)

Temporarily endorsed

### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or in
4.3.4 Monoglycerate citrate	combination

### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe)	1.5 mg/kg
4.6.5 Copper (Cu)	0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

<sup>+</sup> Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amount which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as soya bean oil or soybean oil must conform to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system in addition to the metric system in the case of exports.

### 6.4 Name and Address

The Name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, "Standard for the Labelling of Prepackaged Foods".

### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

## 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils

### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative

density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron, Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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.



Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with 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, 24.043, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic Absorption Spectrophotometric methods may also be used, giving the same or better degree of accuracy.

### Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_D^{40°C}$ ).

### Saponification Value

Determination of the saponification value shall be in accordance with 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.

### Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

### Unaponifiable Matter

Determination of the unaponifiable matter shall be in accordance with 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 unaponifiable matter/kg oil.

### Halphen Test

The Halphen test shall be in accordance with AOCS method (Official and Tentative Methods of the American Oil Chemists' Society, AOCS Official Method Cb1-25).

Result is expressed as positive or negative.

Soap content

Determination of the soap content shall be in accordance with the FAO/WHO Codex Alimentarius Period (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.

Note 2: Analytical procedures to confirm any of the provision in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE SUNFLOWER SEED OIL

## 1 SCOPE

This Cyprus standard applies to edible sunflower seed oil.

## 2 DESCRIPTION

Sunflower seed oil (synonym: sunflower oil) is derived from sunflower seeds (the seeds of *Helianthus annuus* L.).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Sunflower seed oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.918 - 0.923
3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ )	1.467 - 1.469
3.1.3 Saponification Value (mg KOH/g oil)	188 - 194
3.1.4 Iodine Value (Wijs)	110 - 143
3.1.5 Unsaponifiable Matter	not more than 15 g/kg

3.2 Sunflower seed oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.

3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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	

## 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 2: Antioxidants

Antioxidant	Maximum level of use
4.2.1 Propyl, octyl, and <del>decyl</del> gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT) Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates (gallates not exceeding 100 mg/kg)

+ Temporarily endorsed

### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant, Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglycerate citrate	in combination

### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicone) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is exystearin at a maximum level of use of 1250 mg/kg.

### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
6.4.3 Soap content	0.005% m/m
4.6.4 Iron (Fe) (Virgin oil)	5 mg/kg
(Non-virgin oil)	1.5 mg/kg
4.6.5 Copper (Cu) (Virgin oil)	0.4 mg/kg
(Non-Virgin oil)	0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

<sup>+</sup> Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amount which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade /non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as sunflowerseed oil or sunflower oil to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

#### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

#### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided except for export purposes the name of the exporter or other distributor may be provided instead.

#### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

#### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, "Standard for the Labelling of Prepackaged Foods".

#### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

### 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

#### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative



density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatarictis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbonate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis for the AOAC, 1965, 24.053 (and 24.008, 24.009, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy.

### Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_{D,40^{\circ}\text{C}}$ ).

### Saponification Value

Determination of the saponification value shall be in accordance with 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.

### Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

### Unsataponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE COTTONSEED OIL

## 1 SCOPE

This Cyprus standard applies to edible cottonseed oil.

2 Cottonseed Oil is derived from the seeds of various cultivated species of *Gossypium*.

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Cottonseed Oil shall have the following identity characteristics.

3.1.1 Relative density (20°C/Water at 20°C)	0.918 - 0.926
3.1.2 Refractive index ( $n_D^{40^\circ\text{C}}$ )	1.458 - 1.466
3.1.3 Saponification value (mg KOH/g oil)	189 - 198
3.1.4 Iodine value (Wijs)	99 - 119
3.1.5 Unsaponifiable matter	not more than 15 g/kg
3.1.6 Halphen Test <sup>+</sup>	positive

3.2 Cottonseed oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for virgin oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

<sup>+</sup> Kapok oil and some other oils give a positive test and fats from animals fed on cottonseed meal may also give a positive test. Different lists of cottonseed oil may react with different intensities. Hydrogenation and heating of cottonseed oil reduce the intensity of the reaction and may destroy it entirely.

#### 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 3: Antioxidants

Antioxidant	Maximum Level of Use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT) Butylated hydroxyanisole (BHT)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates (gallates not exceeding 100 mg/kg)

+Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant Synergist	Maximum Level of Use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglyceride citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicone) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum Level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe)	1.5 mg/kg
4.6.5 Copper (Cu)	0.1 mg/lg.
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

+ Temporarily endorsed



#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as cottonseed oil, must conform to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978)

#### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

#### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

#### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

#### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, 'Standard for the Labelling of Prepackaged Foods'.

#### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

### 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

## 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprrian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content, are finalised, reference shall be made to the following methods of analysis:

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I<sub>p</sub>)

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with 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, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

(+) Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy.

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_D^{40}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966, II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Selen Test

Selen test shall be in accordance with AOCS method (Official and Tentative Methods of the American Oil Chemists' Society, AOCS Official Methods Cb1-25).

Result is expressed as positive or negative.

Identification of Sesameseed Oil

According to the AOCS Method (Official and Tentative Methods of the American Oil Chemists Society; AOCS Official Method Cb 2-40, Modified Vecchia Test (AOAC)).

The results is expressed as positive or negative.

Note: This procedure is not suitable as an identity test for refined sesameseed oils. Furthermore, sesameseed oil might get oxidized after long storage and this test is likely to be disturbed.

or.

According to part 4, CYS 78:1972 Methods of Analysis for Edible Fats and Oils, Sesameseed Oil Test (Baudowin).

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and/or recommended by CYS.



## CYPRUS STANDARD SPECIFICATION FOR EDIBLE SAFFLOWERSEED OIL

## 1 SCOPE

This Cyprus standard applies to edible safflowerseed oil.

## 2 DESCRIPTION

Safflowerseed oil (Synonyms: Safflower Oil; Carthamus Oil and Kurdee Oil) is derived from safflower seeds (the seeds of *carthamus tinctorius* L).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Safflowerseed oil shall have the following identity characteristics.

3.1.1 Relative Density (20°C/Water at 20°C)	0.922 - 0.927
3.1.2 Refractive Index ( $n_D^{40^\circ\text{C}}$ )	1.467 - 1.470
3.1.3 Saponification Value (mg KOH/g oil)	186 - 198
3.1.4 Iodine Value (Wijs)	135 - 150
3.1.5 Unsaponifiable Matter	not more than 15 g/kg

3.2 Safflowerseed oil shall have the following quality characteristics.

3.2.1 The colour shall be characteristic of the designated product.

3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

3.2.3 Acid value.

3.2.3.1 The acid value for safflowerseed oil shall not be more than 0.6 mg KOH/g oil.

3.2.4 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

## 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels

TABLE 2: Antioxidants

Antioxidant	Maximum level of use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT). Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates, (gallates not exceeding 100 mg/kg)

Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 3: Antioxidant Synergists

Antioxidant, Synergist	Maximum level of use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglycerate citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicon) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe)	1.5 mg/kg
4.6.5 Copper (Cu)	0.1 mg/kg
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

+ Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as safflower seed oil, safflower oil, carthamus oil, or kurdee oil must conform to this standard.

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

##### 6.3 List of Ingredients

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

6.3.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978)

#### 6.4 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

#### 6.5 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

#### 6.6 Country of Origin

6.6.1 The country of origin of the product shall be declared.

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

#### 6.7 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, "Standard for the Labelling of Prepackaged Foods."

#### 6.8 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

### 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

#### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative

density of the oil shall be in accordance with part 1, CYS 78:1979  
Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall  
be in accordance with part 6, CYS 78:1979, Methods of Analysis for  
Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprrian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, and soap content are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I)<sub>p</sub>

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with the AOAC (1965) method (Official Methods of Analysis of the AOAC, International Union of Pure and Applied Chemists, Carbamate Method, 24.023 - 24.028).

Results are expressed as mg copper/kg.

Lead (+)

Determination of lead shall be in accordance with the AOAC (1965) method, after complete digestion, by the colorimetric dithizone determination procedure (Official Methods of Analysis of the AOAC, 1965, 24.023 (and 24.008, 24.009, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

+ Atomic absorption spectrophotometric methods may also be used, giving the same or better degree of accuracy



### Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_D^{40°C}$ ).

### Saponification Value

Determination of the saponification value shall be in accordance with 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.

### Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

### Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

## CYPRUS STANDARD SPECIFICATION FOR EDIBLE SESAMESEED OIL

## 1 SCOPE

This Cyprus standard applies to edible sesameseed oil.

2 Sesameseed oil (synonyms: Sesame Oil; Gingelly Oil; Ben Oil; Till Oil; and Tillie Oil) is derived from sesame seeds (the seeds of *sesamum indicum* L.).

## 3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Sesameseed Oil shall have the following identity characteristics.

3.1.1 Relative density (20°C/Water at 20°C)	0.915 - 0.923
3.1.2 Refractive index ( $n_D^{40^\circ\text{C}}$ )	1.465 - 1.469
3.1.3 Saponification value (mg KOH/g oil)	187 - 195
3.1.4 Iodine value (Wijs)	104 - 120
3.1.5 Unsaponifiable matter	not more than 20 g/kg
3.1.6 Modified villavecchis test or sesame oil test (Baudouin)	positive

3.2 Sesameseed oil shall have the following quality characteristics

- 3.2.1 The colour shall be characteristic of the designated product.
- 3.2.2 Odour and taste. The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.
- 3.2.3 Acid value.
  - 3.2.3.1 The acid value for virgin oil shall not be more than 4 mg KOH/g oil.
  - 3.2.3.2 The acid value for non-virgin oil shall not be more than 0.6 mg KOH/g oil.
- 3.2.4 The peroxide value shall not be more than 10 millicivalents of peroxide oxygen/kg oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

#### 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

#### 4.2 Antioxidants

Only the following antioxidants (table 2) may be used at the specified levels.

TABLE 3: Antioxidants

Antioxidant	Maximum Level of Use
4.2.1 Propyl, octyl, and dodecyl gallates	100 mg/kg individually or in combination
4.2.2 Butylated hydroxytoluene (BHT) Butylated hydroxyanisole (BHT)	200 mg/kg individually or in combination
4.2.3 Any combination of gallates with BHA or BHT, or both	200 mg/kg, but gallates not to exceed 100 mg/kg
4.2.4 Natural and synthetic tocopherols	Not limited
4.2.5 Ascorbyl palmitate	200 mg/kg individually
4.2.6 Ascorbyl stearate	or in combination
4.2.7 Dilauryl thiodipropionate	200 mg/kg
4.2.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT or gallates (gallates not exceeding 100 mg/kg)

+ Temporarily endorsed

#### 4.3 Antioxidant Synergists

Only the following antioxidant synergists (table 3) may be used at the specified levels.

TABLE 4: Antioxidant Synergists

Antioxidant Synergist	Maximum Level of Use
4.3.1 Citric acid and its sodium salt	Not limited
4.3.2 Isopropyl citrate mixture	100 mg/kg
4.3.3 Phosphoric acid (+)	individually or
4.3.4 Monoglyceride citrate	in combination

#### 4.4 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicone) either singly or in combination with silicone dioxide<sup>+</sup> at a maximum concentration of 10 mg/kg.

#### 4.5 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.6 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 4.

TABLE 4: Metal Contaminants

Contaminants	Maximum Level
4.6.1 Matter volatile at 105°C	0.2% m/m
4.6.2 Insoluble impurities	0.05% m/m
4.6.3 Soap content	0.005% m/m
4.6.4 Iron (Fe) (Virgin oil)	5 mg/kg
(Non-virgin oil)	1.5 mg/kg
4.6.5 Copper (Cu) (Virgin oil)	0.4 mg/lg
(Non-virgin oil)	
4.6.6 Lead (Pb)	0.1 mg/kg
4.6.7 Arsenic (As)	0.1 mg/kg

<sup>+</sup> Temporarily endorsed

#### 4.7 Hygiene

4.7.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.7.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.7.3 Edible oils and fats shall be packed and or stored in food grade non-toxic containers.

#### 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in one, two, four, five and sixteen liter containers. Tolerance limits shall be those described by the Weights and Measures Law.

#### 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

##### 6.1 The Name of the Food

6.1.1 All products designated as sesameseed oil, sesame oil, gingelly oil, benne oil, ben oil, till oil or tillie oil must conform to this standard.

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

##### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978).

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports.

### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, "Standard for the Labelling of Prepackaged Foods".

### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

## 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1979, Sampling Fats and Fatty Oils.

7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.



In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperation Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content, are finalised, reference shall be made to the following methods of analysis:

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I<sub>p</sub>)

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with 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.

Lead (+)

Determination of lead shall be in accordance with 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, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

(+) Atomic Absorption Spectrophotometric methods may also be used, giving the same or better degree of accuracy.

Refractive Index

Determination of the refractive index shall be in accordance with 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 (in  $n_D^{40}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Halphen Test

The Halphen test shall be in accordance with AOCS method (Official and Tentative Methods of the American Oil Chemists' Society, AOCS Official Method Cb1-25).

Result is expressed as positive or negative.

Identification of Sesameseed Oil

According to the AOCS Method (Official and Tentative Methods of the American Oil Chemists Society; AOCS Official Method Cb 2-40, Modified Villavecchia Test (AOAC)).

The result is expressed as positive or negative.

Note: This procedure is not suitable as an identity test for refined sesameseed oils. Furthermore, sesameseed oil might get oxidized after long storage and this test is likely to be disturbed.

or

According to part 4, CYS 7b:1979 Methods of Analysis for Edible Fats and Oils, Sesameseed Oil Test (Baudouin).

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS

CYPRUS STANDARD SPECIFICATION FOR EDIBLE FATS AND OILS NOT COVERED  
BY INDIVIDUAL CYS STANDARDS

1 SCOPE

This standard applies to edible oils, fats and mixtures thereof, including those that have been subjected to processes of modification, but not including oils and fats which must be subjected to such processes 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 CYS commodity standard and is designated by a specific name laid down in such standards.

2 DEFINITIONS

2.1 Edible fats and oils means foodstuffs composed of glycerides of fatty acids of vegetable, animal or marine origin. 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. They may contain small amounts of other lipids such as phosphatides of unsaponifiable constituents and of free fatty acids naturally present in the fat or oil.

2.2 Virgin fats and oils means edible fats and oils obtained by mechanical procedures and the application of heat only. They may have been purified by washing, settling, filtering centrifuging or by any other commercially acceptable process.

3 ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Raw Materials

Raw materials shall be edible fats and/or oils or mixtures thereof.

3.3 Odour and Taste

The odour and taste shall be characteristic of the designated product and free from foreign and rancid odour and taste.

### 3.4 Acid Value

3.4.1 The acid value for virgin fats and oils shall not be more than 4 mg KOH/g fat or oil.

3.4.2 The acid value for non-virgin fats and oils shall not be more than 0.6 mg KOH/g fat or oil.

3.5 The peroxide value shall not be more than 10 milliequivalents of peroxide oxygen/kg fat or oil.

## 4 SAFETY AND HEALTH REQUIREMENTS

Only the following food additives shall be used at the specified levels.

### 4.1 Colours

The following colours (table 1) 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:

TABLE 1: Colours

Colour	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

### 4.2 Emulsifiers

The following emulsifiers (table 2) are permitted but only in fats and oils not specifically designated with the name of the plant or animal from which they originate.

\* The temporarily endorsed

Table 2: Emulsifiers

Emulsifier	Maximum level of use
4.2.1 Mono-and diglycerides of fatty acids	Not limited
4.2.2 Mono-and diglycerides of fatty acids estrified with the following acids:	
acetic	
acetyltartaric	
citric	
lactic	
tartaric	
and their sodium and calcium salts	
4.2.3 Lecithins and components of commercial lecithin	
4.2.4 Polyglycerol esters of fatty acids	
4.2.5 Esters of fatty acids with polyalcohols other than glycerol:	20 g/kg of the emulsifiers specified under 4.2.3 to 4.2.11 individually or in combination
Sorbitan monopalmitate	
Sorbitan monostearate	
Sorbitan tristearate	
4.2.6 1,2 propylene glycol esters of fatty acids	
4.2.7 Sucrose esters of fatty acids (including sucroglycerides) (+)	
4.2.8 Stearoyl lactic acid and its calcium salt (+)	
4.2.9 Polyglycerol esters of interesterified ricinoleic acid (+)	
4.2.10 Polyoxyethylene (20) sorbitan monostearate	
4.2.11 Polyoxyethylene (20) sorbitan monooleate	

+ The temporarily endorsed

### 4.3 Antioxidants

Only the following antioxidants (table 3) may be used at the specified levels.

Table 3: Antioxidants

Antioxidant	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) Butylated hydroxyanisole (BHA)	200 mg/kg individually or in combination
4.3.3 Any combination of gallates with BHA or BHT, or both	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	200 mg/kg individually or in combination
4.3.6 Ascorbyl stearate	
4.3.7 Dilauryl thiodipropionate	200 mg/kg
4.3.8 Tertiary butyl hydroquinone (TBHQ)	200 mg/kg singly or in combination with BHA, BHT, or gallates (gallates not exceeding 100 mg/kg)

### 4.4 Antioxidant Synergists

Only the following antioxidant synergists (table 4) may be used at the specified levels.

Table 4: Antioxidant Synergists

Antioxidant Synergist	Maximum level of use
4.4.1 Citric acid and its sodium salt	Not limited
4.4.2 Isopropyl citrate mixture	100 mg/kg
4.4.3 Phosphoric acid (+)	Individually or in combination

\*temporarily endorsed



#### 4.5 Antifoaming Agents

The only permitted anti-foaming agent that may be used is dimethyl polysiloxane (dimethyl silicone) either singly or in combination with silicone dioxide<sup>+</sup> at maximum concentration of 10 mg/kg.

#### 4.6 Crystallization Inhibitor

The only permitted crystallization inhibitor that may be used is oxystearin at a maximum level of use of 1250 mg/kg.

#### 4.7 Metal Contaminants

Metal contaminants shall not exceed the following maximum levels as indicated in table 5.

Table 5: Metal Contaminants

Contaminants	Maximum level
4.7.1 Matter volatile at 105°C	0.2% m/m
4.7.2 Insoluble impurities	0.05% m/m
4.7.3 Soap content	0.005% m/m
4.7.4 Iron (Fe) (Virgin oil)	5 mg/kg
(Non-virgin oil)	1.5 mg/kg
4.7.5 Copper (Cu) (Virgin oil)	0.4 mg/kg
(Non-virgin oil)	0.4 mg/kg
4.7.6 Lead (Pb)	0.1 mg/kg
4.7.7 Arsenic (As)	0.1 mg/kg

#### 4.8 Hygiene

4.8.1 The products covered by the provisions of this standard shall be prepared in accordance with the Code of Practice-General Principles of Food Hygiene CYS 30:1978. Also the premises shall be registered by the Scientific Food Council of the Ministry of Health as complying with the Food Hygiene Regulations of 1970.

4.8.2 To the extent possible in good manufacturing practice the products shall be free from any foreign and objectionable matter, microorganisms capable of development under normal conditions of storage and substances originating from microorganisms in amounts which may be toxic.

4.8.3 Edible oils and fats shall be packed and/or stored in food grade non-toxic containers.

## 5 WEIGHTS

5.1 All edible vegetable oils shall be offered, at the retail level, packed only in containers as described in 4.3.3 and in specific CYS standards. Tolerance limits shall be those described by the Weights and Measures Law.

## 6 LABELLING

In addition to Sections 1, 2, 4 and 6 of the General Standard for the Labelling of Prepackaged Foods (CYS 33:1978) the following specific provisions apply:

### 6.1 The Name of the Food

6.1.1 The name designated for the 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. Names such as edible oil and salad oil which do not indicate a plant or animal source may be used without further qualification.

6.1.2 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.

6.1.3 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.

### 6.2 List of Ingredients

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

6.2.2 A specific name shall be used for ingredients in the list of ingredients except that class titles may be used in accordance with the provisions of the General Standard for the Labelling of Prepackaged Foods. (CYS 33:1978).

### 6.3 Net Contents

The net contents shall be declared by volume in the metric system, or in any other system or systems in addition to the metric system in the case of exports

#### 6.4 Name and Address

The name and address of the manufacturer or packer shall be provided, except for export purposes the name of the exporter or other distributor may be provided instead.

#### 6.5 Country of Origin

6.5.1 The country of origin of the product shall be declared.

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

#### 6.6 Size of Letters and Numbers

The size of letters and numbers shall be in accordance with section 4 of CYS 33:1978, 'Standard for the Labelling of Prepackaged Foods'.

#### 6.7 Coded Marking

Coded marking is to appear on the label indicating the product and the date of production.

### 7 SAMPLING AND METHODS OF TEST

7.1 Either of the following sampling methods may be used at the discretion of the sampling authority or as agreed between the manufacturer and purchaser.

Method 1: According to the provisions of the Food and Drugs Law.

Method 2: According to CYS 89:1978, Sampling For and Fatty Oils.

#### 7.2 Methods of Analysis

7.2.1 Determination of relative density. Determination of the relative density of the oil shall be in accordance with part 1, CYS 78:1979, Methods of Analysis for Edible Fats and Oils.

7.2.2 Determination of iron. Determination of the iron content shall be in accordance with part 6, CYS 78:1979 Methods of Analysis for Edible Fats and Oils.

In the preparation of this standard representatives of the following Organizations collaborated:

Ambrosia Oils Ltd  
 Central Cooperative Industries (Cyprus) Ltd  
 Cyprus Consumers Protection Association  
 Cyprus Olive Products Marketing Board  
 Co-operative Supply Union Ltd  
 Food Importers & Traders Association  
 Galanos Bros Ltd  
 Galatariotis Bros Ltd  
 Government Laboratory  
 Ministry of Agriculture and Natural Resources  
 Ministry of Commerce and Industry  
 Ministry of Health  
 Pancyprian Association of Chemists  
 Cyprus Organization for Standards and Control of Quality

Note 1. For the purpose of this standard and until the methods for the determination of acid value, peroxide value, matter volatile at 105°C, insoluble impurities, copper, lead, arsenic, refractive index, saponification value, iodine value, unsaponifiable matter, Halphen test and soap content, are finalised, reference shall be made to the following methods of analysis.

#### Acid Value (I)

Determination of the acid value shall be in accordance with 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.

#### Peroxide Value (I<sub>p</sub>)

Determination of the peroxide value shall be in accordance with 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.

Matter Volatile at 105°C

Determination of the matter volatile at 105°C shall be in accordance with 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.

Insoluble Impurities

Determination of the insoluble impurities shall be in accordance with 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.

Copper (+)

Determination of copper shall be in accordance with 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.

Lead (+)

Determination of lead shall be in accordance with 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, 24.043 j, 24.046, 24.047 and 24.048)).

Results are expressed as mg lead/kg.

Arsenic

Determination of arsenic shall be in accordance with 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.

\* Atomic Absorption Spectrophotometric methods may also be used giving the same or better degree of accuracy

Refractive Index

Determination of the refractive index shall be in accordance with 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 ( $n_{D,40^{\circ}\text{C}}$ ).

Saponification Value

Determination of the saponification value shall be in accordance with 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.

Iodine Value ( $I_I$ )

Determination of iodine value shall be in accordance with IUPAC (1964) method (IUPAC Standard Methods for the Analysis of Oils, Fats and Soaps, 5th Edition, 1966 II.D.7.2 and II.D.7.3, the Wijs Method).

Unsaponifiable Matter

Determination of the unsaponifiable matter shall be in accordance with 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.

Halphen Test

The Halphen test shall be in accordance with AOCS method (Official and Tentative Methods of the American Oil Chemists' Society, AOCS Official Method Cb1-25).

Result is expressed as positive or negative.

Note 2: Analytical procedures to confirm any of the provisions in this standard shall be those published and or recommended by CYS.

