

**Physical and Chemical Characteristics
of Oils, Fats, and Waxes**

Third Edition

David Firestone, Editor

AOCS Mission Statement

AOCS advances the science and technology of oils, fats, surfactants and related materials, enriching the lives of people everywhere.

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Introduction

For many years, AOCS maintained a section of the *Official Methods and Recommended Practices of the AOCS* detailing the physical and chemical properties of a number of fats and oils; these were collected in *Section I* of that publication. In 1996, the section was re-introduced as an additional section of the 4th edition of the *Official Methods and Recommended Practices of the AOCS*. It contained information relating to approximately 200 plant oils and fats.

In 1997, additions to this compendium were released covering an additional 50 fats derived mainly from animal sources. In 1998, it was decided to consolidate the 1996 and 1997 versions of *Section I*. Furthermore, comments from users of this publication convinced us that it would be advantageous if a more versatile and flexible product was developed. Through the encouragement of Dr. Gerry Szajer and other members of the AOCS technical committees, the database programming was undertaken to make this large body of information more readily accessible. In the 1999 version of the *Physical and Chemical Characteristics of Oils, Fats, and Waxes*, we brought together the original and newer versions of *Section I*, and incorporated a number of additional plant and animal oils and fats. This brought the total number of entries to over 350.

In the second edition of *Physical and Chemical Characteristics of Oils, Fats, and Waxes*, we increased the number of entries by almost 30%. The third edition includes updated material as well as 25% more new content over the second edition. Using the format previously developed for the first edition for plant-derived oils and fats and animal fats, we retained separate sections for physical properties, fatty acid composition, sterols, tocopherols, tocotrienols and triglyceride patterns. Where multiple samples or different references were found for the same oil or fat, a range of values is presented. Care has been taken to present the data in an accurate, useful, and representative fashion. In some cases,

it was necessary to edit or sum the isomers of certain fatty acids in order to preserve the size and integrity of the database. Users are asked to consult the original references to obtain full details. The fully-revised database is contained on the accompanying PDF. It contains the same data as the printed version of the third edition.

The basis for the information presented was found in the original *Section I*, and the reference resources of Dr. David Firestone, Editor-in-Chief of the *Official Methods and Recommended Practices of the AOCS*, and Dr. David Berner, former technical director of the AOCS. In compiling the references, it was clear that a large body of information was gathered from a number of valuable sources. The main sources are listed below:

- Eckey, E.W., *Vegetable Fats and Oils*, Reinhold Publishing Company, New York, 1954
- Hilditch, J.P., and Williams, P.N., *The Chemical Constitution of Natural Fats*, 4th edition, Chapman and Hall, London, 1964
- Roth, L., and Kormann, K., *Atlas of Oil Plants and Vegetable Oils*, Agrimedia GmbH, Gergen/Dumme, Germany, 2005
- Ucciani, E., *Nouveau Dictionnaire Des Huiles Végétales: Compositions En Acides Gras*, Lavoisier, Paris, 1995
- Section I, *Physical and Chemical Characteristics of Oils, Fats, and Waxes*, AOCS 1996/7
- *Fatty Acids in Foods and Their Health Implications*, 3rd Edition (Chow, C.K., ed.) CRC Press, Boca Raton, Florida, 2008
- *Analysis of Oilseeds, Fats, and Fatty Foods* (Rossell, J.B., and Pritchard, J.L.R., eds.) Elsevier Applied Science, New York, 1991
- *Manuel Des Corps Gras* (Karleskind, A., and Wolff, J.P.) Lavoisier, Paris, 1992
- USDA, National Nutrient Database for Standard Reference Release 24, Agricultural Research Service, National Agricultural Library, Release 1.0 (2012)

Note: These references are not repeated in the database or printed version.

A number of entries are derived from national and international trade guidelines and standards. The following list may serve as a useful guide:

- Codex Alimentarius Commission, Codex Standard for Named Vegetable Oils, Codex Stan 210-1999
- USDA Agricultural Handbook no. 8-4 and supplements, Composition of Foods, Fats and Oils, Raw, Processed, Prepared, Human Nutrition Information Service, USDA
- Guideline Specifications, FOSFA International, 2nd edition, 1994
- Recueil de Normes Françaises des Corps Gras, Graines Oléagineuses et Produits dérivés, 2nd edition, AFNOR, Paris, 1981

The latin names used have been harmonized where possible with the terms presented in the latest version of ISO 5527:1997 Oil-seeds—Nomenclature. For more details see also *Fat Sci. Technol.* 97: 539 (1995).

Other resources

AOCS maintains three very useful publications, *inform*, *Lipids*, and *JAOCS (Journal of the American Oil Chemists' Society)*, that regularly contain articles reporting the composition of fats and oils. Other journals referred to in this publication provide further data regularly.

Naming fatty acids

A number of conventions exist for naming individual fatty acids. Many of the more common fatty acids have trivial names, for example palmitic acid, oleic acid, linoleic acid, etc., whereas all have systematic names based on their carbon number, such as decanoic acid, and eicosatetraenoic acid. In this product we have used the shorthand convention of number of carbons in the fatty acid chain followed by the number of double bonds; thus palmitic acid is 16:0, oleic acid is 18:1, linoleic acid is 18:2. The arrangement of double bonds within the fatty acid chain is

also subject to two different naming systems. The IUPAC convention names the position of the double bond based on its position relative to the carboxyl carbon. The position may be denoted using Δ ; thus oleic acid is $\Delta 9$ -18:1 and linoleic acid is $\Delta 9,12$ -18:2, but it is more common to identify the configuration of the bond using *cis* or *trans*; thus oleic acid is *cis* 9-18:1. Two other similar conventions are based on the position of the double bonds relative to the methyl terminal of the fatty acid chain. These are either the ω (omega) or n- (“n-minus”) conventions, where ω counts the number of carbon atoms from the methyl carbon as position 1, and n refers to the total number of carbons in the fatty acid. Within the n- and ω conventions there are recognized families of naturally occurring fatty acids based on the position of the first double bond; the most common series are n-3, n-6 and n-9 ($\omega 3$, $\omega 6$, $\omega 9$). Using these conventions, oleic acid is 18:1 n-9 or 18:1 $\omega 9$ and linoleic acid is 18:2 n-6 or 18:2 $\omega 6$. Further information regarding fatty acid nomenclature may be found in any biochemistry reference text or specifically:

Christie, W.W., *Lipid Analysis*, Pergamon Press, Oxford, UK, 1982, pp. 1.

In the following sections and in the database, we have used the shorthand notation for chainlength and number of double bonds. Double bond positions and configuration are indicated according to the IUPAC convention and identified as *cis* (c), or *trans* (t), where this is stated in the reference. Acetylenic (a) and epoxy and conjugated bonds are also identified where known.

Table 1 shows the systematic name, common name, triglyceride code, and shorthand convention (carbon number) for the fatty acids regularly presented in the database. Rarer, but more remarkable, fatty acids may be found labeled “other.” For the TG code, many are based on the trivial names of the fatty acids and may have different meanings in different oils so please refer to the fatty acid pattern to avoid misinterpretation.

Molecular Structure of Triglycerides

With the development of reversed phase high performance liquid chromatography, it is possible to fractionate triglycerides into individual molecular species. Separation is a function of the total number of carbon atoms and the total number of double bonds. Thus for each possible triglyceride structure a unique identification may be assigned. This is normally termed the “expected carbon number” or ECN and is calculated as:

$$(\text{total carbon number}) - 2(\text{number of double bonds})$$

In the tables of triglyceride composition, the different molecular species have been identified by their single letter codes. The order of the letters does not imply the position of the fatty acids, thus POL may be a mixture of POL, OPL, and OLP. Generally positional isomers were not described in the references used, however, where such information was available, individual isomers were summed to maintain the database. The individual letter codes used when identifying the constituent fatty acids in triglyceride molecular species are given in Table 1.

Table 1

Systematic Name	Common Name	TG Shorthand	Structure
Tetranonic	Butyric		4:0
Pentanoic	Valeric		5:0
Hexanoic	Caproic		6:0
Octanoic	Caprylic		8:0
Decanoic	Capric		10:0
Dodecanoic	Lauric	La	12:0
Dodecenoic			12:1
	Lauroleic		9c-12:1
Trisdecanoic			13:0
Tetradecanoic	Myristic	M	14:0
Tetradenenoic			14:1
	Myristoleic		9c-14:1
Pentadecanoic			15:0
Hexadecanoic	Palmitic	P	16:0
Hexadecenoic	Palmitoleic	Po	9c-16:1
Hexadecadienoic			16:2
Heptadecanoic	Margaric		17:0
Octadecanoic	Stearic	S	18:0
Octadecenoic			18:1
	Oleic	O	9c-18:1
	Elaidic		9t-18:1
	Petroselenic		6c-18:1
	<i>cis</i> -Vaccenic		11c-18:1
	Vaccenic		11t-18:1
Octadecadienoic	Linoleic	L	9c,12c-18:2
Octadecatrienoic	Linolenic	Ln	18:3
	γ -Linolenic	Lng	6c,9c,12c-18:3
	α -Linolenic		9c,12c,15c-18:3
	Pinolenic		5c,9c,12c-18:3
	α -Eleostearic	E	9c,11t,13t-18:3

(continued)

Table 1 (continued)

Systematic Name	Common Name	TG Shorthand	Structure
Octadecatetraenoic	Moroctic/morotic		4c,8c,12c,15c-18:4
	Stearidonic		6c,9c,12c,15c-18:4
Nonadecanoic			19:0
Eicosanoic	Arachidic	A	20:0
Eicosenoic			5c-20:1
Eicosadienoic	Gadoleic/gondoleic	G	9c-20:1
			Gondoic	11c-20:1
Eicosatrienoic			20:2
			20:3
	Dihomo- γ -linolenic/ homo- γ -linolenic		8c,11c,14c-20:3
	Mead's acid		5c,8c,11c-20:3
Eicosatetraenoic	Arachidonic		5c,8c,11c,14c-20:4
Eicosapentaenoic			5c,8c,11c,14c,17c-20:5
Docosanoic	Behenic	B	22:0
Docosenoic			22:1
	Cetolic		11c-22:1
	Erucic	E	13c-22:1
Docosadienoic			22:2
			5c,13c-22:2
			16c,19c,22:2
Docosapentaenoic			7c,10c,13c,16c,19c-22:5
Docosahexaenoic			4c,7c,10c,13c,16c,19c-22:6
Tetracosanoic	Lignoceric		24:0
Tetracosenoic	Nervonic		15c-24:1
Tetracosapentaenoic	Scoliodonic		24:5
Tetracosahexaenoic	Nisinic		24:6
Hexacosanoic	Cerinic/cerotic		26:0
Octacosanoic			28:0

In TG patterns: D = Dimorphcolic, R = Ricinoleic

Compiled from Christie, W.W., *Lipid Analysis*, Pergammon Press, Oxford, UK, 1982, Ch. 1, pp. 1; Gunstone, F.D., in *Lipid Technologies and Applications* (Gunstone, F.D., and Padley, F.B., eds.), Marcel Dekker, New York, 1997, Ch. 1, pp. 1; AOCS Analytical Division Home page (www.aocs.org) with permission from R.O. Adlof.

Explanation of Characteristics of Oils and Fats

Boiling Point The temperature at which the vapor pressure of the liquid oil sample equals the pressure surrounding the sample and the sample changes into a vapor—expressed in degree Celsius (°C).

Fat Esters of fatty acids and glycerol, which are normally solid at room temperature.

Fatty Acid A long chain, carboxylic acid, which generally contains an unbranched chain with an even number of carbons. Specific fatty acid compositions of oils are expressed as a percentage of total fatty acids.

Flash Point The temperature at which an oil sample, when heated under prescribed conditions, will flash when a flame is passed over the surface of the oil, but will not maintain ignition—expressed in degree Celsius (°C).

Ignition Point The temperature at which an oil sample will continue to burn on its own without the application of additional external heat—expressed in degree Celsius (°C).

Iodine Value An expression of the degree of unsaturation of a fat. It is determined by measuring the amount of iodine, which reacts with a natural or processed fat under prescribed conditions. The value indicates how much halogen—expressed, as the percentage of iodine—a fat or a fatty acid is able to digest.

Melting Point The temperature at which an oil sample changes state from solid to liquid—expressed in degree Celsius (°C).

Oil Esters of fatty acids and glycerol, which normally are liquid at room temperature.

Refractive Index A numerical expression—related to the degree of saturation (iodine value)—of the ratio of the speed of light in a vacuum to the speed of light in a

test substance affected by factors such as free fatty acid, oxidation and heat treatment. The scales of instruments indicate indices respective to air rather than in a vacuum for practical measurements.

Saponification The chemical reaction between a fat or oil and an alkaline compound creating glycerol and soap. The hydrolysis of mono-, di- or triglycerides with a caustic or alkali to form free glycerol and fatty acids in the form of soaps.

Saponification Value An expression of the number of milligrams of an alkaline compound that is required for the saponification of 1 g of fat. The saponification value is inversely related to the average molecular weight of the fat and is, therefore, an indication of the type of fatty acids in the fat.

Solidification Point The temperature at which the liquid phase of an oil sample is in approximate equilibrium with a relatively small portion of the solid phase—expressed in degree Celsius (°C). Also, sometimes, referred to as titer.

Specific Gravity The ratio of the weight of a given volume of sample material at a specified temperature (superscript) to the weight of the same volume of water at a specified temperature (subscript)—providing a measure of relative density.

Sterol A compound made up of the sterol nucleus, an 8- to 10-carbon side chain and an alcohol group.

Tocopherol A naturally occurring antioxidant found in many vegetable oils.

Triglyceride The chemical combination product of glycerol and three fatty acids. Alternatively known as triacylglycerol.

Unsaponifiable The percentage of how much of the percentage of an oil is not saponifiable with potassium hydroxide lye.

Wax Hydrophobic material made of hydrocarbon, long chain fatty acids, long chain alcohols or wax ester (ester of a long chain alcohol and fatty acid).

Table of Contents

Introduction	v
Characteristics of Oils and Fats of Plant Origin	1
Characteristics of Oils and Fats of Animal Origin	227
Triglyceride Molecular Species of Selected Oils & Fats	273
Index	291

Characteristics of Oils and Fats of Plant Origin

Acacia Arabica

Acacia arabica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4723
40°C	
Other RI	
Iodine Value	105.6
Saponification Value	194.4
Titer °C	
% Unsaponifiable	2.4
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–2.2
16:0	12.7–18.9
18:0	5.5–61
9c-18:1	17.4–40.2
9c,12c-18:2	27.4–49.5
Undefined 18:3	0–3.1

- References** *J. Am Oil Chem. Soc.* 67: 433–434 (1990)
Ind. Crop. Prod. 15: 131–137 (2002)

Acacia Auriculiformis Oil

Acacia auriculiformis

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.9
16:0	10.1–19
18:0	4–31.1
Total 18:1	24–24.2
9c-18:1	40.5
Epoxy 18:1	5
Undefined 18:2	44.3
9c,12c-18:2	8.4–44
Undefined 18:3	2.5
20:0	2–2.2
Total 20:1	1
22:0	4.5

- References** *J. Am Oil Chem. Soc.* 60: 1893 (1983)
Int. J Food Sci. Nutr. 52: 337–341 (2001)

Acacia Coriacea Oil

Acacia coriacea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	13–24
18:0	3–5
Total 18:1	42
9c-18:1	61
Epoxy 18:1	2
9c,12c-18:2	4–38
Undefined 18:3	1
20:0	2

- References** *J. Am Oil Chem. Soc.* 60: 1893 (1983)

Acacia Lenticularis Oil*Acacia lenticularis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI(30) 1.4700

Iodine Value 225

Saponification Value 193.5

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0 0.9

14:0 0.5–1.1

15:0 0.4

16:0 7–20.5

9c-16:1 0.3–1.3

18:0 0.8–1

Total 18:1 7

9c-18:1 25.6

Epoxy 18:1 2

9c,12c-18:2 1–39.6

Undefined 18:3 5.4–80

20:0 tr

References *J. Am Oil Chem. Soc.* 65: 1959
(1988)**Acacia Mellifera Oil***Acacia mellifera*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.4650

Other RI

Iodine Value 75

Saponification Value 186

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.6

16:0 18–18.3

9c-16:1 0.5

18:0 8–8.4

Total 18:1 23.9–24

Epoxy 18:1 0.6

Undefined 18:2 43.8

9c,12c-18:2 44

20:0 2.7–4

References *J. Am Oil Chem. Soc.* 60: 1893
(1983)
Int. J Food Sci. Nutr. 52: 337–341 (2001)**Acacia Minhassai Oil***Acacia minhassai*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.6

16:0 6–7

18:0 1

Total 18:1 18

9c,12c-18:2 72

20:0 2

References *J. Am Oil Chem. Soc.* 60: 1893
(1983)

Acacia Mollissima Oil*Acacia mollissima*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	.....(30) 1.4875
Iodine Value	..... 140
Saponification Value	..... 192
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	..... 0.1–1.1
16:0	..... 10.5–26.1
9c-16:1	..... 0–1.1
18:0	..... 0.8–1.9
Total 18:1	..... 17
9c-18:1	..... 16.6–22.8
Epoxy 18:1	..... 2
9c,12c-18:2	..... 32.6–68.1
Undefined 18:3	..... 0.8–1.8
20:0	..... 0.6–3.5
Total 20:1	..... 0.1
22:0	..... 0.1–2.9

References *J. Am Oil Chem. Soc.* 65: 1959 (1988)

Acacia Richardiana Seed Oil*Acacia richardiana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	..... 15
18:0	..... 13.8
Total 18:1	..... 29.4
Undefined 18:2	..... 36.5
20:0	..... 3.8

References *Int. J Food Sci. Nutr.* 52: 337–341 (2001)

Acacia Tortilis Oil*Acacia tortilis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	.....(30) 1.4745
Iodine Value	..... 203
Saponification Value	..... 193
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	..... 2.5
13:0	..... 2.5
14:0	..... 0.1
9c-14:1	..... 0.1
15:0	..... 0.3
16:0	..... 9.5
9c-16:1	..... 0.1
18:0	..... 2.4
Total 18:1	..... 6
9c-18:1	..... 6.1
Epoxy 18:1	..... 2
9c,12c-18:2	..... 2
Undefined 18:3	..... 71.7–72
20:0	..... 1–1.1
Total 20:1	..... 0.2
11c-20:1	..... 0.2

References *J. Am Oil Chem. Soc.* 65: 1959 (1988)

Achiote Seed Oil

Bixa orellana

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 1.2

Melting Point °C

Fatty Acid Composition (%)

12:0 0.3

14:0 1.2

16:0 1.6

18:0 26.9

9c-18:1 48

9c,12c-18:2 1.5

Undefined 18:3 2.1

20:0 11.9

22:0 7.3

References

Achras Sapota Oil

Achras sapota

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.13

16:0 20.31

9c-16:1 0.03

18:0 9.29

9c-18:1 55.08

7c-18:1 0.4

9c,12c-18:2 11.80

9c,12c,15c-18:3 0.42

20:0 0.78

11c-20:1 0.67

22:0 0.24

22:2 0.02

24:0 0.39

Tocopherol Composition, mg/kg

α-Tocopherol 57

β-Tocopherol

γ-Tocopherol 40

δ-Tocopherol

Total, mg/kg

References *J. Am Oil Chem. Soc.* 68:

183–189 (1991)

Acioa Edulis Oil

Acioa edulis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.4835

40°C

Other RI

Iodine Value 115.6

Saponification Value 198.8

Titer °C

% Unsaponifiable 1.2

Melting Point °C

Fatty Acid Composition (%)

16:0 28.3

9c-16:1 1.3

18:0 6.8

9c-18:1	26.4
9c,12c-18:2	8.8
20:0	0.7

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Acorn Oil

Acer spp.

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.908–0.918
Other SG	
Refractive Index (RI)	
25°C	1.462–1.470
40°C	1.458–1.465
Other RI	
Iodine Value	81–107
Saponification Value	184–197
Titer °C	
% Unsaponifiable	0.8–2.3
Melting Point °C	

Fatty Acid Composition (%)

10:0	0–7.4
12:0	0–1.5
14:0	0–1.4
15:0	0.05–0.11
16:0	3–19.68
16:1	0.16–0.37
9c-16:1	0–1.4
17:0	0.24–0.58
18:0	0.6–5.35
Total 18:1	51.4–58
9c-18:1	5–29
Undefined 18:2	18.26–20.1
9c,12c-18:2	23.6–38
Undefined 18:3	0.2–15.3
6c,9c,12c-18:3	0–7
20:0	0.1–6.2
Total 20:1	0.41–0.5
11c-20:1	4–9.4
22:0	0–6.8
24:0	0.2–12.8
15c-24:1	0–10.3

References *Anal. Bioanal. Chem.* 388:
451–462 (2007)

Adonsonia Digitata Seed Oil

Adonsonia digitata

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2
16:0	15.5
9c-16:1	0.2
16:2	0.7
18:0	3.1
9c-18:1	24.7
11c-18:1	0.7
9c,12c-18:2	19.1
6c,9c,12c-18:3	0.4
9c,9c,15c-18:3	1.6
20:0	0.7
11c-20:1	0.2
22:0	0.4
24:0	0.3

References *J. Am Oil Chem. Soc.* 75: 1031
(1998)

Aegean Wallflower Oil

Cheiranthus cheiri

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	3–3.3
9c-16:1	0–0.3
18:0	0–0.8
9c-18:1	10–11
9c,12c-18:2	17–19
Undefined 18:3	19–23
20:0	0–0.5
11c-20:1	8.1–10
22:0	0–0.7
13c-22:1	31–32
15c-24:1	0.5–1.8

References**Aesculus Sinensis Oil***Aesculus sinensis*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.18
16:0	12.60
9c-16:1	2.66
18:0	1.58
9c-18:1	29.99
7c-18:1	4.12
9c,12c-18:2	16.17
9c,12c,15c-18:3	23.33
20:0	0.11

11c-20:1	0.26
22:0	0.32
13c-22:1	0.35
24:0	0.16

Tocopherol Composition, mg/kg

α-Tocopherol	195
β-Tocopherol	
γ-Tocopherol	88
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	97
β-Tocotrienol	
γ-Tocotrienol	626
δ-Tocotrienol	336
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:

1013–1020 (2003)

African Mango Oil*Irvingia gabonensis*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C 0.9073
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.4515
 Other RI
 Iodine Value 86–103
 Saponification Value 243–252
 Titer °C
 % Unsaponifiable 0.4
 Melting Point °C

Fatty Acid Composition (%)

8:0	3
10:0	0–1.54
12:0	5.7–59
14:0	21.2–59
16:0	2–33.9
18:0	0.4–5.9
Total 18:1	0.6–24.5

9c-18:1	0.6–1.6
9c,12c-18:2	0–6
Undefined 18:3	0.7
20:0	0.5
Total 20:1	0.5

References *Riv. Ital. Sost. Grasse* 61: 569 (1984)

Afzelia Bella Oil

Afzelia bella

Specific Gravity (SG)	15.5/15.5°C 25/25°C Other SG
Refractive Index (RI)	25°C 40°C Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.1
16:0	2.2–4.3
9c-16:1	0–0.2
16:2	1.4
18:0	2.3–3.4
9c-18:1	8.1–11.8
11c-18:1	0.3
9c,12c-18:2	20.4–28.4
Undefined 18:3	0.2–2
9c,12c,15c-18:3	0.3
20:0	1–2
Total 20:1	1.4
11c-20:1	0–1.1
22:0	1–4.3
24:0	6.6–8.3
Other	3 unidentified - 48.3

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Ajowan Oil

Trachysperum ammi

Specific Gravity (SG)	15.5/15.5°C 25/25°C Other SG
Refractive Index (RI)	25°C 40°C Other RI
Iodine Value	(35) 1.470
Saponification Value	100
Titer °C	182
% Unsaponifiable	2.3
Melting Point °C	

Fatty Acid Composition (%)

16:0	4.5
18:0	1.6
9c-18:1	9.7
6c-18:1	61.4
9c,12c-18:2	22.7

References

Albizzia Lebbeck Oil

Albizzia lebbeck

Specific Gravity (SG)	15.5/15.5°C 25/25°C Other SG
Refractive Index (RI)	25°C 40°C Other RI
Iodine Value	(60) 0.9215–0.9225
Saponification Value	
Titer °C	
% Unsaponifiable	(30) 1.4749–1.4751
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.31
16:0	5.6–17.5
16:1	0.69–0.71
9c-16:1	0.3–0.5
16:2	1.4

17:0	0.19–0.21
18:0	2.5–11.5
Total 18:1	28.4
9c-18:1	8.9–21.4
11c-18:1	0.7–3.61
Undefined 18:2	35.3–43.9
9c,12c-18:2	15.8–57.1
Undefined 18:3	1.4–2.31
6c,9c,12c-18:3	0.2
9c,12c,15c-18:3	6.4
20:0	1–5.7
Total 20:1	0.2–0.52
11c-20:1	0–0.8
22:0	2.9–5.7
24:0	0–1.3
15c-24:1	0.19–0.21

Tocopherol Composition, mg/kg

α -Tocopherol	481–483
β -Tocopherol	118–124
γ -Tocopherol	224–230
δ -Tocopherol	0–1
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	0–1
β -Tocotrienol	
γ -Tocotrienol	0–1
δ -Tocotrienol	0–1
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Int. J Food Sci. Nutr. 52: 337–341 (2001)
Grasas y Aceites 59: 321–326 (2008)

Albizzia Zygia Oil*Albizzia zygia*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	

Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	13.8
9c-16:1	7.7
16:2	1.5
18:0	2.7
9c-18:1	13.4
11c-18:1	4.9
9c,12c-18:2	13.6
9c,12c,15c-18:3	2.2
20:0	0.9
Total 20:1	0.3
22:0	1.6
24:0	0.6

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)**Aleurites Montana Oil***Aleurites montana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	0.4–2.54
9c-16:1	0.02
18:0	2.41–2.9
9c-18:1	8.02–14.4
7c-18:1	0.36
9c,12c-18:2	10.25–14.9
Undefined 18:3	0.3–7.3
9c,12c,15c-18:3	0.03
9c,11t,13t-18:3	67.1

20:0	0.16
11c-20:1	1.01
22:0	0.09
13c-22:1	0.04
22:2	0.06
24:0	0.05

Tocopherol Composition, mg/kg

α-Tocopherol	255
β-Tocopherol	
γ-Tocopherol	1206
δ-Tocopherol	44
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	34
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:

1013–1020 (2003)

Alfalfa Oil (Utah)*Medicago sativa***Specific Gravity (SG)**

15.5/15.5°C	
25/25°C	0.925
Other SG	

Refractive Index (RI)

25°C	1.4797
40°C	
Other RI	

Iodine Value 161–168

Saponification Value 185–188

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	10
18:0	5
Total 18:1	7–11
9c,12c-18:2	43–71
Undefined 18:3	11–32

References**Allspice Oil***Pimenta dioica***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.475

Iodine Value 134

Saponification Value 171

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)**References****Almond Kernel Oil***Prunus dulcis***Specific Gravity (SG)**

15.5/15.5°C

25/25°C 0.910–0.916

Other SG (26/26) 0.915–0.920, (15/4)

0.914–0.920

Refractive Index (RI)

25°C 1.4702–1.4715

40°C 1.462–1.466

Other RI (26) 1.464–1.470, (20)

1.4705–1.4717

Iodine Value 85–106

Saponification Value 183–207

Titer °C

% Unsaponifiable 1–2

Melting Point °C

Solidification Point °C –21 to –10

Fatty Acid Composition (%)

16:0 0.4–13

9c-16:1 0.2–0.8

18:0 1–10

Total 18:1 43–70

9c-18:1 77

Undefined 18:2 29.6–36.8

9c,12c-18:2 19.9–34

20:0	0.1–0.5
Total 20:1	0–0.3
Sterol Composition, %	
Cholesterol	
Brassicasterol	
Campesterol	2–4
Stigmasterol	1–2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	80
D5-Avenasterol	10–12
D7-Stigmasterol	1–2
D7-Avenasterol	1–2
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	2660
Tocopherol Composition, mg/kg	
α -Tocopherol	228
β -Tocopherol	
γ -Tocopherol	8
δ -Tocopherol	
Total, mg/kg	236

- References** *J. Am. Dietetic Assn.* 73: 39 (1978)
Fat Sci. Technol. 91: 23 (1989)
Rev. Franc. Corps Gras 33: 115 (1986)
Chem. Nat. Compd. 38: 5 (2002)

Almond Oil

Prunus amygdalus

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	

Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	0.5–1.2
Melting Point °C	

Fatty Acid Composition (%)

16:0	6–8.6
9c-16:1	0.4–1.9
18:0	0.4–1.4
9c-18:1	58.4–80.8
9c,12c-18:2	11.9–32.4
Undefined 18:3	0–0.1

References

Alpine Current Seed Oil

Ribes alpinum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	5–6
16:1	0.2
9c-16:1	0.2
18:0	1–2
Total 18:1	19
9c-18:1	18.1
Epoxy 18:1	18
Undefined 18:2	39
9c,12c-18:2	39–41
Undefined 18:3	18–22
6c,9c,12c-18:3	8.9–9
18:4	4
Total 20:1	0.1
11c-20:1	0–0.1

References *Lipids* 13: 1311 (1996)

Alyogine Hakeifolia Oil

Alyogine hakeifolia

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.1

16:0 11.4

9c-16:1 0.1

17:0 0.5

18:0 3

Total 18:1 12.6

Undefined 18:2 62.1

Undefined 18:3 2.4

20:0 0.3

References *J. Am Oil Chem. Soc.* 68:

518–519 (1991)

Alyogine Huegelii Oil

Alyogine huegelii

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0

16:0 12.9

9c-16:1 0.3

17:0 0.3

18:0 2.4

Total 18:1 15.5

Undefined 18:2 60

Undefined 18:3 1.6

20:0 0.6

References *J. Am Oil Chem. Soc.* 68:

518–519 (1991)

Amaranth Seed Oil

Amaranthus caudatus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 18–25

18:0 0.5–4

Total 18:1 28–37

9c-18:1 36.6

Undefined 18:2 37–46

9c,12c-18:2 42

Undefined 18:3 0–2

20:0 0.6

References *Chem. Nat. Compd.* 34: 99–100

(1998)

Amaranth Seed Oil

Amaranthus cruentus/
A. paniculatus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 8.5

Melting Point °C

% Squalene in Crude Oil 4.6

Fatty Acid Composition (%)

14:0 0–1

16:0 13.4–22

16:1 0–0.2

9c-16:1 0–1

18:0 1.6–4

Total 18:1 19–36

Undefined 18:2 37–62.2

Undefined 18:3 0.6–2

20:0 0.7–1

Total 20:1 0.2–0.4

22:0 0.2–0.4

24:0 0–1

References *J. Food Sci.* 46: 1175 (1981)

J. Am Oil Chem. Soc. 65: 942 (1988)

Riv. Ital. Sost. Grasse 75: 505 (1998)

Amaranth Seed Oil (Various)

Amaranthus spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 4.5–7

Melting Point °C

Fatty Acid Composition (%)

14:0 0–1

9c-14:1 0–0.2

16:0 9.7–25

9c-16:1 0–0.3

17:0 0.6–1.3

18:0 2–4

Total 18:1 13–34

Undefined 18:2 39.4–61.5

9c,12c-18:2 47–62

Undefined 18:3 0–1.3

20:0 0–1.4

Total 20:1 0.18–0.24

11c-20:1 0.3–1

22:0 0.14–0.32

24:0 0–1

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol

Stigmasterol 8

Stigmasta-8,22-dien-3β-ol

5α-Stigmasta-7,22-dien-3β-ol

D7,25-Stigmastadienol

β-Sitosterol

D5-Avenasterol

D7-Stigmasterol 16

D7-Avenasterol

D7-Campesterol

D7-Ergosterol 14

D7,25-Stigmasterol

Sitostanol

Spinasterol 54

Squalene 5–8

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α-Tocopherol

β-Tocopherol

γ-Tocopherol

δ-Tocopherol
Total, mg/kg 370–390

References *J. Food Sci.* 46: 1175 (1981)
Cereal Food. World 34: 950 (1989)
J. Am Oil Chem. Soc. 64: 233 (1987)
J. Am Oil Chem. Soc. 77: 847–852 (2000)

Amaranthus Mangostanus Oil

Amaranthus mangostanus

Specific Gravity (SG)
15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.29
16:0	19.08
9c-16:1	0.19
18:0	3.19
9c-18:1	18.82
7c-18:1	1.26
9c,12c-18:2	44.68
9c,12c,15c-18:3	0.14
20:0	0.92
11c-20:1	0.24
22:0	0.02
13c-22:1	0.18
22:2	0.09–0.11
24:0	0.31

Tocopherol Composition, mg/kg

α-Tocopherol 94

β-Tocopherol

γ-Tocopherol 580

δ-Tocopherol

Total, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Ambrette Seed Oil (Raw)

Hibiscus abelmoschus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (30) 1.4750

Iodine Value 92.5

Saponification Value 193.7

Titer °C

% Unsaponifiable 1.8

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.3
16:0	20.7–39.1
18:0	3.5–5.5
Total 18:1	26.1
9c-18:1	55.9–62.9
Undefined 18:2	39.4
9c,12c-18:2	0.1
19:0	1.5
20:0	0.3–0.4
Unidentified 22:1	0.2

References *J. Am Oil Chem. Soc.* 80:
209–211 (2003)

Amoora Rohituka Oil

Amoora rohituka

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value	103
Saponification Value	
Titer °C	
% Unsaponifiable	5–6
Melting Point °C	
Solidification Point °C	291

Fatty Acid Composition (%)

16:0	21.8–25
18:0	11.8–13
Total 18:1	20.9–22
9c,12c-18:2	26.2–29
Undefined 18:3	13–14

References *J. Am Oil Chem. Soc.* 53: 478
(1976)

Andenopus Breviflorus Oil*Andeopus breviflorus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.8995
Other SG	
Refractive Index (RI)	
25°C	1.4615
40°C	
Other RI	
Iodine Value	100
Saponification Value	193
Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

16:0	10
18:0	17
Total 18:1	0.6
9c,12c-18:2	14
Undefined 18:3	56
20:0	1

References *Riv. Ital. Sost. Grasse* 75: 191
(1998)

Anfeltia Tobuchiensis Oil*Anfeltia tobuchiensis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2–4.2
15:0	0.2–1.5
16:0	10.5–41.2
16:1	0.6–3.4
16:2	0–1.5
17:0	0.3–1
18:0	0.9–8.7
9c-18:1	8.1–25.4
7c-18:1	1.5–14.3
9c,12c-18:2	0.6–1.2
20:2	0–1.9
Unidentified 20:3	0.6–9.9
20:4	14.5–36.8
20:5	6.7–36.8

References *Phytochemistry* 65: 721–730
(2004)

Anise Seed Oil*Pimpinella anisum*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)	
25°C	
40°C	
Other RI	(35) 1.474
Iodine Value	97–109
Saponification Value	178–84
Titer °C	
% Unsaponifiable	1–6.7
Melting Point °C	
Solidification Point °C	–3

Fatty Acid Composition (%)

12:0	0–0.2
14:0	0–2.5
16:0	4.7–6.3
9c-16:1	0–1.1
18:0	1–2
9c-18:1	21.7–62.2
6c-18:1	24.7–48.9
9c,12c-18:2	0–21.2
Undefined 18:3	0–0.5
Other	0–1.1

References *Fette Seifen Anstrichm.* 85: 23 (1983)

Apple Seed Oil*Malus domestica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.902–0.923

Refractive Index (RI)	
25°C	1.473
40°C	1.466–1.468
Other RI	

Iodine Value	104–123
Saponification Value	186–197
Titer °C	

% Unsaponifiable	0.8–1.8
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.5
16:0	5.606–7.2
16:1	0.06–1.4
18:0	1.1–1.466
Total 18:1	26.473–29

Undefined 18:2	43.031–61
9c,12c-18:2	0.6
Undefined 18:3	0.3–0.6
20:0	1.311
Total 20:1	0.391
20:2	0.043
22:0	0.270
24:0	0.089

Sterol Composition, %

Cholesterol	0.3
Brassicasterol	0.5
Campesterol	2.6
Stigmasterol	6.6
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	86.6
D5-Avenasterol	1.4
D7-Stigmasterol	0.5
D7-Avenasterol	0.3
D7-Campesterol	1.0
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	0.3
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 75: 405 (1998)

Int. J. Food Prop. 12: 774–779 (2009)

Apricot Kernel Oil*Prunus armeniaca*

Specific Gravity (SG)	
15.5/15.5°C	0.914–0.921
25/25°C	0.910–0.916
Other SG	

Refractive Index (RI)	
25°C	1.467–1.473
40°C	1.462–1.466
Other RI	

Iodine Value	96–110
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Saponification Value	185–199
Titer °C	
% Unsaponifiable	0.4–1.4
Melting Point °C	
Solidification Point °C	–21 to 6

Fatty Acid Composition (%)

16:0	0.4–7.6
9c-16:1	0.4–2
18:0	0.2–6.1
Total 18:1	58–72.5
9c-18:1	62.1–71.8
Undefined 18:2	21.5–29.3
9c,12c-18:2	21.9–33
Undefined 18:3	0–1
20:0	0.2

Sterol Composition, %

Cholesterol	0.6–0.8
Brassicasterol	
Campesterol	6
Stigmasterol	2–5
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	60–88
D5-Avenasterol	3–5
D7-Stigmasterol	13
D7-Avenasterol	5
D7-Campesterol	1
D7-Ergosterol	
D7,25-Stigmasterol	2
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	10–22
β -Tocopherol	
γ -Tocopherol	170–794
δ -Tocopherol	20–24
Total, mg/kg	200–840

References *Riv. Ital. Sost. Grasse* 62: 79 (1975)
J. Am Oil Chem. Soc. 53: 713 (1976)

Lebensmittelchem. Gerichtl. Chem. 36: 53 (1982)

Rev. Franc. Corps Gras 33: 115 (1986)

Riv. Ital. Sost. Grasse 75: 405 (1998)

J. Am Oil Chem. Soc. 69: 492–494 (1992)

Chem. Nat. Compd. 38:5 (2002)

Arabidopsis Thaliana Seed Oil*Brassicaceae columbia***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****Melting Point °C****Fatty Acid Composition (%)**

16:0	6–8
18:0	3–4
Total 18:1	14
11c-18:1	1
Undefined 18:2	27–28
Undefined 18:3	18
20:0	2–3
Total 20:1	20
11c-20:1	22
20:2	2
22:0	0.3–0.4
Unidentified 22:1	2
13c-22:1	2

References**Argan Seed Oil***Argania spinosa***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG (20/20) 0.906–0.919

Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.463–1.4708
Iodine Value	92–102
Saponification Value	189–195
Titer °C	
% Unsaponifiable	0.3–1.1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.1–0.3
16:0	12–16
16:1	0.1–1
9c-16:1	0–0.2
18:0	2–7
Total 18:1	42–55
9c-18:1	46.9–48.1
Undefined 18:2	28–37.4
9c,12c-18:2	30–34
Undefined 18:3	0–1
20:0	0–1
Total 20:1	0.1
11c-20:1	0–0.5

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	
Stigmasterol	
Stigmasta-8,22-dien-3β-ol	4
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	44
D5-Avenasterol	
D7-Stigmasterol	48
D7-Avenasterol	4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	44
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg	
α-Tocopherol	

β-Tocopherol	
γ-Tocopherol	
δ-Tocopherol	
Total, mg/kg	167–635

- References** *Rev. Franc. Corps Gras* 39: 139 (1992)
J. Am Oil Chem. Soc. 69: 141 (1992)
J. Am Oil Chem. Soc. 76: 15–18 (1999)

Argemone Oil*Argemone mexicana*

Specific Gravity (SG)	
15.5/15.5°C	0.9220–0.9247
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4660–1.4685
Other RI	
Iodine Value	119–128
Saponification Value	185–193
Titer °C	
% Unsaponifiable	1.1–4
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.5
16:0	8–15
9c-16:1	0–2
18:0	0–5
Total 18:1	22–33
9c-18:1	28.1–29.2
9c,12c-18:2	48–62

- References** *J. Am Oil Chem. Soc.* 52: 171 (1975)
Res. J. Pharm., Biol. Chem. Sci. 2: 927–936 (2011)

Arrugula Seed Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	

25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

6:0	0.23
8:0	0.20
11:0	0.04
12:0	0.06
14:0	0.09
16:0	10.76
16:1	0.08
18:0	2.27
9c-18:1	18.26
5c,6c-18:2 (R)-form	6.19
Undefined 18:3	1.98
20:0	0.50
Total 20:1	7.33
20:0	0.23
Undefined 22:1	51.77

References www.pheog.com

Asparagus Seed Oil

Asparagus officinalis/
A. adscender

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.475
40°C	
Other RI	
Iodine Value	137–140
Saponification Value	193–194
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	11.9
18:0	4.4

9c-18:1	33.5
9c,12c-18:2	50.2

References**Avocado (Pulp) Oil**

Persea americana

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.908–0.921
Other SG	
Refractive Index (RI)	
25°C	1.462–1.470
40°C	1.458–1.465
Other RI	(20) 1.470–1.472
Iodine Value	65–95
Saponification Value	170–198
Titer °C	
% Unsaponifiable	1–12
Melting Point °C	

Fatty Acid Composition (%)

16:0	9–18
9c-16:1	2.7–9
18:0	0.4–1
Total 18:1	56–74
9c-18:1	65
Undefined 18:2	12.5
9c,12c-18:2	6–17
Undefined 18:3	0–2

Sterol Composition, %

Cholesterol	0–0.2
Brassicasterol	2
Campesterol	6–8
Stigmasterol	0–2
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	89–92
D5-Avenasterol	3
D7-Stigmasterol	
D7-Avenasterol	0.2
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	

Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg 4040

Tocopherol Composition, mg/kg
 α -Tocopherol 64–100
 β -Tocopherol
 γ -Tocopherol 0–19
 δ -Tocopherol
 Total, mg/kg 83–100

References *J. Am Oil Chem. Soc.* 65: 1704 (1988)
Riv. Ital. Sost. Grasse 52: 79 (1975)
J. Am. Dietetic Assn. 73: 39 (1978)
J. Am Oil Chem. Soc. 53: 732 (1976)
Lipids 9: 658 (1974)

Avocado Oil

Persea gratissima

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)
 16:0 9–20
 9c-16:1 2.8–6.6
 18:0 0.4–1
 9c-18:1 55.3–74
 11c-18:1 0–3.5
 9c,12c-18:2 10–14
 Undefined 18:3 1–2

References

Azima Tetracantha

Azima tetracantha

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value 141
 Saponification Value 201.5
 Titer °C
 % Unsaponifiable 2.3
 Melting Point °C

Fatty Acid Composition (%)

12:0 0–3.5
 14:0 0.2–4.2
 16:0 5.0–5.2
 18:0 1.6–14.8
 9c-18:1 15.3–31.8
 9c,12c-18:2 18–28.8
 Undefined 18:3 0–22
 20:0 0–6.7
 11c-20:1 0–21.1
 22:0 0–2.4
 Other Ricinoleic, 9.8; malvalic, 4.0; sterculic, 5.6

References *J. Am Oil Chem. Soc.* 68: 978–979 (1991)

Babassu Palm Oil (Brazil)

Attalea speciosa/Orbignya spp.

Specific Gravity (SG)
 15.5/15.5°C 0.903–0.924
 25/25°C
 Other SG (25/20) 0.914–0.917
 Refractive Index (RI)
 25°C
 40°C 1.448–1.451
 Other RI
 Iodine Value 10–18
 Saponification Value 241–256
 Titer °C

% Unsaponifiable	1–1.2
Melting Point °C	22–26
Solidification Point °C	21–25

Fatty Acid Composition (%)

6:0	0.1–0.4
8:0	2.6–7.3
10:0	1.2–8
12:0	40–55
14:0	11–27
16:0	5–11
18:0	1.8–7.4
Total 18:1	9–20
9c-18:1	10–16
Undefined 18:2	1.6
9c,12c-18:2	1–6.6
20:0	0–0.1

Sterol Composition, %

Cholesterol	1.2–1.7
Brassicasterol	0–0.3
Campesterol	17.7–18.7
Stigmasterol	8.7–9.2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	48.2–53.9
D5-Avenasterol	16.9–20.4
D7-Stigmasterol	
D7-Avenasterol	0.4–1.0
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	570–766

Tocotrienols Composition, mg/kg

α -Tocotrienol	25–46
β -Tocotrienol	
γ -Tocotrienol	32–80
δ -Tocotrienol	9–10
Total Tocotrienols, mg/kg	67–128

References *Codex CX 1993/16***Bacury (Barcuri) Seed Fat***Platonia insignis*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	44
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	54–56

Fatty Acid Composition (%)

14:0	1–2.23
16:0	36.16–55.1
9c-16:1	0.39–3.2
18:0	4.39–31.7
Total 18:1	32
9c-18:1	45.21–48.23
9c,12c-18:2	1.76–3.68
9c,12c,15c-18:3	3.01–3.35
20:0	0.3

References *Eur. Food Res. Technol.* 218:

380 (2004)

Bael Seed Oil*Aegle marmelos*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	141
Saponification Value	194
Titer °C	
% Unsaponifiable	2.2
Melting Point °C	

Fatty Acid Composition (%)

16:0	14.4
18:0	0.4
9c-18:1	30.0
Undefined 18:2	28.1
Undefined 18:3	27.1

References *J. Chem. Pharm. Res.* 4:1486–1488 (2012)

Baguacu Pulp Oil

Pindarea fastuosa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (26.4/26.4) 0.9057

Refractive Index (RI)

25°C 1.463

40°C

Other RI

Iodine Value 21

Saponification Value

Titer °C

% Unsaponifiable 1.3

Melting Point °C 22.4

Fatty Acid Composition (%)

14:0	0.3
16:0	36
16:1	0.7
18:0	2
Total 18:1	47
Undefined 18:2	1.7
Undefined 18:3	7.2

Sterol Composition, %

Cholesterol 4.5

Brassicasterol

Campesterol 4

Stigmasterol 77

Stigmasta-8,22-dien-3β-ol

5α-Stigmasta-7,22-dien-3β-ol

D7,25-Stigmastadienol

β-Sitosterol

D5-Avenasterol 1.8

D7-Stigmasterol

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol 1.5

Spinasterol

Squalene

24-Methylene Cholesterol

Other 8.5

% sterols in oil

Total Sterols, mg/kg

References *Riv. Ital. Sost. Grasse* 75: 345 (1998)

Baguacu Seed Oil

Pindarea fastuosa

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.9217

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.457

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 0.8

Melting Point °C

Fatty Acid Composition (%)

6:0	0.5
8:0	10–11
10:0	11
12:0	46
14:0	10
16:0	6
18:0	2
Total 18:1	11–12
Undefined 18:2	2

Sterol Composition, %

Cholesterol 1.5

Brassicasterol

Campesterol 14

Stigmasterol 7

Stigmasta-8,22-dien-3β-ol

5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	69
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	3.8
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	4.5
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 75: 345 (1998)

Bahera Seed Oil

Terminalia bellirica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	76
Saponification Value	209
Titer °C	
% Unsaponifiable	8.2
Melting Point °C	

Fatty Acid Composition (%)

16:0	18–35.6
9c-16:1	2
18:0	8–8.2
Total 18:1	56
9c-18:1	23.5
9c,12c-18:2	11–30.7

References *J. Agric. Food Chem.* 43: 902 (1995)

Baillonella Toxisperma Kernel Oil

Baillonella toxisperma

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	19
18:0	22
9c-18:1	55
9c,12c-18:2	4

References *Rev. Franc. Corps Gras* 39: 147 (1992)

Baobab Seed Oil

Adansonia spp.

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.937
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4596–1.4633
Other RI	
Iodine Value	55–96
Saponification Value	133–195
Titer °C	
% Unsaponifiable	2.8–3.8
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–0.3
14:0	0–1.5
15:0	0–0.1
16:0	19.7–46.7

9c-16:1	0–1.7
17:0	0–0.2
8a,10t-17:2	0–0.9
18:0	0–9
Total 18:1	21–59
9c-18:1	20.9–41.9
9c,12c-18:2	12–32.1
Undefined 18:3	0–8
20:0	0.3–1.0
Total 20:1	0–3.6
11c-20:1	0–0.2
22:0	0–0.6
13c-22:1	0–0.4
Other	Malvalic, 1–7; sterculic, 1–8; dihydrosterculic, 2–5

Sterol Composition, %

Cholesterol	2
Brassicasterol	
Campesterol	6
Stigmasterol	1–2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	75
D5-Avenasterol	0.5
D7-Stigmasterol	0.6
D7-Avenasterol	12
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *Lipids* 17: 1 (1982)

- Riv. Ital. Sost. Grasse* 60: 747 (1983)
Riv. Ital. Sost. Grasse 73: 371 (1996)

Barley Oil*Hordeum vulgare*

Specific Gravity (SG)

15.5/15.5°C
25/25°C

Other SG

Refractive Index (RI)

25°C
40°C

Other RI

Iodine Value 105–115

Saponification Value 181–185

Titer °C

% Unsaponifiable 5–6

Melting Point °C

Fatty Acid Composition (%)

14:0	0.3–2.0
16:0	10.3–29
18:0	1–6.4
Total 18:1	4–28
9c-18:1	20.5
9c,12c-18:2	50–62
Undefined 18:3	0.5–6

Tocopherol Composition, mg/kg

α -Tocopherol	13–23
β -Tocopherol	2–3
γ -Tocopherol	1–3
δ -Tocopherol	
Total, mg/kg	16–29

Tocotrienols Composition, mg/kg

α -Tocotrienol	44–59
β -Tocotrienol	8–15
γ -Tocotrienol	7–9
δ -Tocotrienol	
Total Tocotrienols, mg/kg	59–83

References *Cereal Sci. Today* 11: 99 (1966)

- Lipids* 9: 560 (1974)
Lipids 9: 804 (1974)
Anal. Biochem. 32: 81 (1969)
J. Agr. Food Chem. 20: 240 (1972)

Basella Rubra Seed Oil*Basella rubra*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C

40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.11
 16:0 18.51
 9c-16:1 0.81
 18:0 6.43
 9c-18:1 47.44
 7c-18:1 4.27
 9c,12c-18:2 15.82
 9c,12c,15c-18:3 0.28
 20:0 1.46
 11c-20:1 0.27
 22:0 0.63
 24:0 3.84

Tocopherol Composition, mg/kg

α-Tocopherol 138
 β-Tocopherol
 γ-Tocopherol 290
 δ-Tocopherol 29
 Total, mg/kg

References *J. Am Oil Chem. Soc.* 80:
 1013–1020 (2003)

Basil Seed Oil

Ocimum spp.

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI (20) 1.460–1.481
 Iodine Value 172–200
 Saponification Value 191–200
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.03
 16:0 6.2–11
 9c-16:1 0.2–0.3
 11c-16:1 0.12
 18:0 2–4
 Total 18:1 9–13
 9c-18:1 7.43–15
 7c-18:1 0.78
 9c,12c-18:2 17–33
 Undefined 18:3 44–65
 9c,12c,15c-18:3 54.58
 20:0 0.16
 11c-20:1 0.11
 22:0 0.04
 24:0 0.05

Tocopherol Composition, mg/kg

α-Tocopherol 52
 β-Tocopherol
 γ-Tocopherol 828
 δ-Tocopherol 47
 Total, mg/kg

References *J. Am Oil Chem. Soc.* 73: 393
 (1996)
J. Am Oil Chem. Soc. 80: 1013–1020 (2003)

Bauhinia Retusa Seed Oil

Bauhinia retusa

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.3
 16:0 21.2–21.9
 18:0 10.7

9c-18:1	28.3
9c,12c-18:2	34.2
Undefined 18:3	34.2
20:0	4.6–4.7

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)

Bauhinia Triandra Seed Oil

Bauhinia triandra

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.2
16:0	21.7–23.7
18:0	10.1–11.3
9c-18:1	18.8
9c,12c-18:2	44.8–44.9
Undefined 18:3	44.9
20:0	2.2–2.3

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)

Bauhinia Variegata Seed Oil

Bauhinia variegata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.3
16:0	19.5–22.7
9c-16:1	0–2.2
18:0	10.5–18.3
Total 18:1	14.2
9c-18:1	14.1–26.1
9c,12c-18:2	36.8–46.6
Undefined 18:3	0–0.8
20:0	0–2.2
11c-20:1	0–1
22:0	0–0.2

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)

Bean Oil

Phaseolus spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (45) 1.464–1.479

Iodine Value 99–142

Saponification Value 187–190

Titer °C

% Unsaponifiable 1–5.9

Melting Point °C

Solidification Point °C –12 to 0

Fatty Acid Composition (%)

14:0	0.3–0.9
16:0	18–26.3
9c-16:1	0–0.7
17:0	0–0.4
18:0	4.3–5.8
9c-18:1	7.4–9.7
11c-18:1	0–1.7
9c,12c-18:2	30–39.2

Undefined 18:3	10.6–21
20:0	1.5–2.1
11c-20:1	0.5–0.7
22:0	0.5–1.9
24:0	0–0.2

References

Beechnut Kernel Oil

Fagus orientalis/F. sylvatica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(15/4) 0.9220–0.9225
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4725, (15) 1.4729–1.4752
Iodine Value	101–111
Saponification Value	181–196
Titer °C	
% Unsaponifiable	0.5–1
Melting Point °C	
Solidification Point °C	–17.5 to –17

Fatty Acid Composition (%)

16:0	5.2–8.8
18:0	3.2–3.7
Total 18:1	30.4
9c-18:1	30.4–81
Undefined 18:2	48.9
9c,12c-18:2	9.7–48.9
Undefined 18:3	0.4
Total 20:1	6.7
11c-20:1	6.7

References *J. Am Oil Chem. Soc.* 69: 1274 (1992)

Beet Oil

Beta vulgaris

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	15.7
9c-16:1	0.5
18:0	1.3
9c-18:1	31.3
9c,12c-18:2	43.2
Undefined 18:3	0.5
20:0	0.9
11c-20:1	0.8
22:0	0.5
13c-22:1	0.3
24:0	0.5
15c-24:1	4.3

References

Bengal Gram (Chickpea) Oil

Cicer arietinum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 111.68–114.06

Saponification Value 183.51–185.86

Titer °C

% Unsaponifiable 2.97–3.78

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.5
16:0	9.5–21.6
9c-16:1	0.2–0.9
18:0	0.8–3

Total 18:1	19–28
9c-18:1	20.8–24.6
9c,12c-18:2	45–66
Undefined 18:3	0–6
20:0	0–1.8
22:0	0–0.7

Tocopherol Composition, mg/kg

α-Tocopherol	17
β-Tocopherol	1
γ-Tocopherol	92
δ-Tocopherol	4
Total, mg/kg	114

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	2

References *J. Am Oil Chem. Soc.* 74: 1603

(1997)

Food Chem. 56: 123 (1996)*J. Am Oil Chem. Soc.* 84: 1143–1148 (2007)**Benincasa (Winter Squash) Wax***Benincasa hispida***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****Melting Point °C****Fatty Acid Composition (%)**

16:0 8.53

18:0 3.99

9c-18:1 19.16

9c,12c-18:2 68.32

References**Bird Cherry Kernel Oil***Prunus padus***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****Melting Point °C****Fatty Acid Composition (%)**

16:0 3–4.4

18:0 0.2–1.4

Total 18:1 37.7–38.9

Undefined 18:2 46–47.8

Undefined 18:3 9.9–10.1

References *Chem. Nat. Compd.* 38: 5

(2002)

Bitter Almond Kernel Oil*Prunus dulcis***Specific Gravity (SG)**

15.5/15.5°C

25/25°C 0.9145

Other SG

Refractive Index (RI)

25°C 1.4703

40°C

Other RI

Iodine Value 94**Saponification Value** 189**Titer °C****% Unsaponifiable** 1.2**Melting Point °C****Solidification Point °C** 7**Fatty Acid Composition (%)**

14:0 0.4

16:0	7
9c-16:1	0.3
18:0	1
Total 18:1	74
9c,12c-18:2	17

References *Fat Sci. Technol.* 89: 305 (1987)

Bitter Vetch Seed Oil

Lathyrus cicera

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.5
16:0	5–6
9c-16:1	0.3
18:0	17–20
Total 18:1	57–58
9c,12c-18:2	12
Undefined 18:3	0.6–0.8
20:0	1.1–1.3
22:0	0.8–1.0

Sterol Composition, %

Cholesterol	1.1–1.5
Brassicasterol	
Campesterol	8–9
Stigmasterol	21–22
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	56–59
D5-Avenasterol	0.3–0.4
D7-Stigmasterol	7–8
D7-Avenasterol	
D7-Campesterol	

D7-Ergosterol
D7,25-Stigmasterol
Sitostanol
Spinasterol
Squalene
24-Methylene Cholesterol
Other
% sterols in oil
Total Sterols, mg/kg

References *Riv. Ital. Sost. Grasse* 71: 567 (1994)

Bittersweet Oil

Celastrus scandens

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (20/4) 0.9772

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.4815

Iodine Value 122

Saponification Value 297

Titer °C

% Unsaponifiable 3

Melting Point °C

Fatty Acid Composition (%)

2:0	19
16:0	10
18:0	2
Undefined 18:2	44
Undefined 18:3	24

References

Black Gram (Mung Bean) Oil

Vigna mungo

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	11–18.7
9c-16:1	1.7–1.9
18:0	2.6–5.2
9c-18:1	1.6–26.1
7c-18:1	1.3–1.4
9c,12c-18:2	7.2–13
9c,12c,15c-18:3	47.8–52.6
20:0	0.1
Total 20:1	0.1
22:0	0.8
11c-22:1	0.1
22:2	0.2
16c,19c,-22:3	0.1
24:0	0.1

Tocopherol Composition, mg/kg

α-Tocopherol	3
β-Tocopherol	
γ-Tocopherol	66
δ-Tocopherol	2
Total, mg/kg	70

References *J. Am Oil Chem. Soc.* 74: 1603 (1997)
J. Sci. Food Agric. 87: 920–923 (2007)

Blackberry Seed Oil*Rubus fruticosus*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value 148
 Saponification Value 190
 Titer °C

% Unsaponifiable 0.8
 Melting Point °C

Fatty Acid Composition (%)**References****Blackcurrant Oil***Ribes nigrum*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG (20/20) 0.921–0.928
 Refractive Index (RI)
 25°C
 40°C
 Other RI (20) 1.479–1.481
 Iodine Value 173–182
 Saponification Value 185–195
 Titer °C
 % Unsaponifiable 1
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	5.3–8
9c-16:1	0–0.2
18:0	1–2
Total 18:1	9–13
9c-18:1	9.5–14.7
9c,12c-18:2	45–50
Undefined 18:3	12.4–13
6c,9c,12c-18:3	12.2–20
9c,12c,15c-18:3	12–15
6c,9c,12c,15c-18:4	2–4
20:0	0.2
Total 20:1	0.9–1.0
22:0	0.1
24:0	0.1

Sterol Composition, %

Cholesterol	0.2–0.7
Brassicasterol	
Campesterol	7.2–10.4
Stigmasterol	0.5–1.0
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	

β -Sitosterol	70–85
D5-Avenasterol	2–3
D7-Stigmasterol	0.4–4.5
D7-Avenasterol	0.4–2
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg	
α -Tocopherol	320
β -Tocopherol	8
γ -Tocopherol	647
δ -Tocopherol	68
Total, mg/kg	1043

- References** *Rev. Franc. Corps Gras* 35: 501(1988)
Rev. Franc. Corps Gras 39: 339 (1992)
Codex 1987/8, 1987/17
Riv. Ital. Sost. Grasse 65: 1 (1988)
Lipids 31: 131 (1996)
Ind. Crop. Prod. 22: 169–174 (2005)

Bladdernut Oil

Staphylea pinnata

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.472
40°C	
Other RI	
Iodine Value	108
Saponification Value	190
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

References

Bliphia Sapida Seed Oil

Bliphia sapida

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.942
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	64
Saponification Value	176
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	5–6
14:0	1
16:0	8
9c-16:1	1–2
18:0	2
Total 18:1	53
9c,12c-18:2	19
Undefined 18:3	8
20:0	1

- References** *Riv. Ital. Sost. Grasse* 72: 311 (1995)

Blue/Purple Morning Glory Seed Oil

Ipomea indica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.19–0.21
16:0	19.7–20.1
16:1	0.3–0.5
17:0	0.09–0.11
18:0	7.3–7.9
9c-18:1	33.6–34.4
Undefined 18:2	33–34
Undefined 18:3	0.3–0.5
20:0	0.5–0.7
Total 20:1	0.1–0.5
24:0	0.29–0.31

Tocopherol Composition, mg/kg

α-Tocopherol	0–2
β-Tocopherol	11–13
γ-Tocopherol	240–244
δ-Tocopherol	17–19
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	1–3
β-Tocotrienol	
γ-Tocotrienol	15–17
δ-Tocotrienol	0–1
Total Tocotrienols, mg/kg	

References *Grasas y Aceites* 59: 321–326 (2008)

Blueberry Seed Oil*Vaccinium myrtillus*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C 1.478
 40°C
 Other RI
 Iodine Value 167
 Saponification Value 190

Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)**References****Bombax Constantum Seed Oil***Bombax constantum*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value 103
 Saponification Value 285
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

6:0	3
8:0	7
16:0	8
18:0	3
Total 18:1	49
9c,12c-18:2	13
20:0	3
24:0	1–2
Other . . . 12,13-Epoxy-octadeca-9-enoic, 13 (vernolic)	

References *Riv. Ital. Sost. Grasse* 73: 271 (1996)

Bombax Munguba Seed Oil*Bombax munguba*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)

25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 51.8–58.3
 18:0 3.1–3.8
 Total 18:1 0.5
 9c-18:1 5.3–6.7
 9c,12c-18:2 5.6–6.6
 19:1 18.4
 20:0 1.5

References *J. Am Oil Chem. Soc.* 75:
 1757–1760 (1998)

Borage Oil*Borago officinalis*

Specific Gravity (SG)

15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)

25°C
 40°C
 Other RI

Iodine Value 141–160

Saponification Value 189–192

Titer °C

% Unsaponifiable 1.2–1.9

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.1
 16:0 9.4–15.68
 9c-16:1 0.1–0.4
 18:0 2.6–5.7
 9c-18:1 10.33–21.3
 9c,12c-18:2 34.5–40.25
 Undefined 18:3 0.1–1
 6c,9c,12c-18:3 17.1–26.54
 9c,12c,15c-18:3 0.15–0.25
 6c,9c,12c,15c-18:4 0.2

20:0 0–0.4
 5c-20:1 2.14–4.2
 11c-20:1 2–4.1
 13c-22:1 1.5–2.8
 15c-24:1 1–4.5
 Other 0.8

Sterol Composition, %

Cholesterol
 Brassicasterol 0–1.6
 Campesterol 25–30
 Stigmasterol
 Stigmasta-8,22-dien-3β-ol
 5α-Stigmasta-7,22-dien-3β-ol
 D7,25-Stigmastadienol
 β-Sitosterol 22–42
 D5-Avenasterol 15–28
 D7-Stigmasterol
 D7-Avenasterol 1
 D7-Campesterol
 D7-Ergosterol
 D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol 15–20
 Other
 % sterols in oil
 Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α-Tocopherol 0–46
 β-Tocopherol
 γ-Tocopherol 33–272
 δ-Tocopherol 690–1013
 Total, mg/kg 732–1111

References *Rev. Franc. Corps Gras* 39: 135
 (1992)

Rev. Franc. Corps Gras 36: 279 (1989)

J. Am Oil Chem. Soc. 71: 117 (1994)

Rev. Franc. Corps Gras 39: 339 (1992)

J. Am Oil Chem. Soc. 65: 979 (1988)

Lipids 31: 1311 (1996)

J. Plant Growth Regul. DOI: 10.1007/

s00344-012-9290-8: 1–8 (2012)

Ind. Crop. Prod. 22: 169–174 (2005)

Borage Oil (Dwarf)*Borago pygmaea*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 148–151

Saponification Value 190–196

Titer °C

% Unsaponifiable 0.9–1.1

Melting Point °C

Fatty Acid Composition (%)

14:0 0.1

16:0 10.6–10.8

9c-16:1 0.1–0.2

18:0 3.8–4.2

9c-18:1 12.9–15.3

9c,12c-18:2 34–34.2

Undefined 18:3 0.9

6c,9c,12c-18:3 25.1–27.9

9c,12c,15c-18:3 0.9–1.3

20:0 0.2–0.4

Total 20:1 2.9–3.7

11c-20:1 2.9

22:0 0.1

Unidentified 22:1 0.6–3.0

13c-22:1 0.6

15c-24:1 1.4–2.3

References *Rev. Franc. Corps Gras* 39: 135 (1992)**Borneo Tallow***Shorea stenoptera/S. spp.*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG .. (100/15) 0.852–0.860, (99/99)
0.851–0.857

Refractive Index (RI)

25°C

40°C 1.4559–1.4573

Other RI

Iodine Value 27–38

Saponification Value 189–200

Titer °C

% Unsaponifiable 0.4–2.0

Melting Point °C 37–39

Solidification Point °C 22–53

Boiling Point °C 28–37

Fatty Acid Composition (%)

14:0 0–1.5

16:0 15.3–21.5

18:0 39–45.1

Total 18:1 34–37

9c-18:1 36.9–38

9c,12c-18:2 0.2–1

20:0 1–1.6

References**Boxwood Seed Oil***Buxus sempervirens*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 2.1

Melting Point °C

Fatty Acid Composition (%)

16:0 11.4

9c-16:1 0.9

17:0 0.2

18:0 2.6

9c-18:1 27.9

11c-18:1 1

9c,12c-18:2 54.4

Undefined 18:3 1.2

20:0 0.4

References

Brachyandra Calophylla Oil*Brachyandra calophylla*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0 0.1

10:0 11

12:0 77

14:0 4

16:0 2

18:0 0.1

Total 18:1 2

9c,12c-18:2 3

Undefined 18:3 0.3

References *Crit. Rev. Food Sci. Nutr.* 28:
139 (1989)**Brachystegia Nigerica Oil***Brachystegia nigerica*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (27) 1.4641

Iodine Value 9.79

Saponification Value 145.9

Titer °C

% Unsaponifiable 14.4
Melting Point °C**Fatty Acid Composition (%)**

12:0 0.2–0.24

14:0 0.45–0.5

16:0 13.18–13.2

18:0 19.80

9c-18:1 20.8–20.84

9c,12c-18:2 43.65–43.7

20:0 1.1–1.14

5c,8c,11c,14c-20:4 0.90

References *J. Am Oil Chem. Soc.* 68: 649
(1991)**Brassica Chinensis Seed Oil***Brassica chinensis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.03

16:0 1.99–2.3

9c-16:1 0.16–0.2

18:0 0.8–1.22

9c-18:1 13.4–18.13

7c-18:1 1.02

9c,12c-18:2 11.66–13.4

Undefined 18:3 8.7

9c,12c,15c-18:3 7.13

20:0 0.7–0.91

11c-20:1 5.9–7.24

22:0 0.9–1.19

13c-22:1 44.20–46.6

22:2 0.52

24:0 0.39

Tocopherol Composition, mg/kg	
α-Tocopherol	140
β-Tocopherol	
γ-Tocopherol	415
δ-Tocopherol	11
Total, mg/kg	

Tocotrienols Composition, mg/kg	
α-Tocotrienol	1
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Brassica Oleracea Seed Oil

Brassica oleracea

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.04
16:0	3.64
11c-16:1	0.15
18:0	0.74
9c-18:1	16.55
7c-18:1	1.3
9c,12c-18:2	11.86
9c,12c,15c-18:3	8.16
20:0	0.49
11c-20:1	9.08
22:0	0.41
13c-22:1	42.05
22:2	0.45
24:0	0.29

Tocopherol Composition, mg/kg	
α-Tocopherol	130
β-Tocopherol	1
γ-Tocopherol	240
δ-Tocopherol	8
Total, mg/kg	

Tocotrienols Composition, mg/kg	
α-Tocotrienol	2
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Brazil Nut Oil

Bertholletia excelsia/

B. myrtaceae

Specific Gravity (SG)

15.5/15.5°C 0.914–0.917

25/25°C 0.910–0.912

Other SG

Refractive Index (RI)

25°C 1.464–1.468

40°C 1.458–1.462

Other RI (20) 1.4678–1.4711

Iodine Value 94–106

Saponification Value 192–202

Titer °C

% Unsaponifiable 0–1

Melting Point °C

Solidification Point °C 0–32

Fatty Acid Composition (%)

14:0 0.6–1.79

16:0 13.55–16

9c-16:1 0.3

18:0 2.58–10.4

Total 18:1 29–48

9c-18:1 41.2–55.64

9c,12c-18:2 30–47

20:0 0.3

Sterol Composition, %

Cholesterol 1

Brassicasterol

Campesterol	2
Stigmasterol	9
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	85
D5-Avenasterol	
D7-Stigmasterol	2
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 52: 79 (1975)

J. Food Technol. 13: 355 (1978)

Brown Algae Oil

Laminaria japonica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	5.3
16:0	12.3
16:1	3.9
18:0	1
9c-18:1	8.4
9c,12c-18:2	8.4

Undefined 18:3	4.2–6.1
18:4	13.9
20:4	14
20:5	14

References *Phytochemistry* 65: 721–730 (2004)

Brown Algae Oil

Sargassum pallidum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	3.6
16:0	22.4
16:1	6.3
17:0	0–1
18:0	0.8
9c-18:1	7.2
9c,12c-18:2	9.8
Undefined 18:3	7.2
18:4	7.3
9c-20:1	0.9
20:2	0.3
Unidentified 20:3	3.6
20:4	0.3
20:5	3.8

References *Phytochemistry* 65: 721–730 (2004)

Brunfelsia Americana Seed Oil

Brunfelsia americana

Specific Gravity (SG)	
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15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value 124
Saponification Value 198
Titer °C
% Unsaponifiable 2.2
Melting Point °C

Fatty Acid Composition (%)

14:0 2.1
16:0 9.7
18:0 5
9c-18:1 16.9
9c,12c-18:2 58.8
Other Ricinoleic, 5; malvalic, 1.1; sterculic, 1.4

References *J. Am Oil Chem. Soc.* 68: 608–609 (1991)

Buchanania Lanzas Oil

Buchanania lanzan/B. latifolia

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG (30/30) 0.9018
Refractive Index (RI)
25°C
40°C
Other RI (30) 1.4620
Iodine Value 57–63
Saponification Value 193
Titer °C
% Unsaponifiable 0.7
Melting Point °C

Fatty Acid Composition (%)

14:0 0.6–4.9
16:0 33–44
9c-16:1 2.1
18:0 6–23.5
Total 18:1 54
9c,12c-18:2 6–20

References *J. Sci. Food Agric.* 28: 463 (1977)

Buffalo Gourd Oil

Cucurbita foetidissima

Specific Gravity (SG)
15.5/15.5°C
25/25°C 0.9172
Other SG
Refractive Index (RI)
25°C 1.4692–1.4747
40°C 1.4652–1.4686
Other RI
Iodine Value 123–138
Saponification Value 190–195
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0 6–24.4
18:0 1–10.2
Total 18:1 10–32
9c-18:1 10–50
5c,6c-18:2 (R)-form 2–3
9c,12c-18:2 38–77.2

References *J. Am Oil Chem. Soc.* 57: 310 (1980)

E.H. Pryde, et al., eds., *New Sources Of Fats and Oils*, AOCS Press, IL, 1981, pp. 55

Butternut Oil

Juglans cinerea

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	1.6
18:0	0.8
Total 18:1	19
9c,12c-18:2	62
Undefined 18:3	16

References *J. Food Technol.* 13: 355 (1978)

Caesalpinia Pulcherrima Seed Oil

Caesalpinia pulcherrima

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	13–21.7
9c-16:1	0–1.1
18:0	10.2–13.5
9c-18:1	12.6–15.5
Undefined 18:2	49.8
9c,12c-18:2	49.8–54
Undefined 18:3	0–1.9
20:0	1.8–2.3
11c-20:1	0–0.5
22:0	0–1.3

References *Int. J. Food Sci. Nutr.* 52:

337–341 (2001)

Calendula Seed Oil

Calendula officinalis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 151–153

Saponification Value

Titer °C

% Unsaponifiable 1–12

Melting Point °C

Fatty Acid Composition (%)

14:0	0.5
16:0	2.4–5
18:0	1.2–2.0
Total 18:1	3.8
9c-18:1	4–5.5
Undefined 18:2	28.5
9c,12c-18:2	28–34
Undefined 18:3	0–1.1
8t,10t,12c-18:3	59.1
20:0	0–0.4
Total 20:1	0.4
11c-20:1	0–0.3
Other	0.5–1

Tocopherol Composition, mg/kg

α-Tocopherol 28

β-Tocopherol 27

γ-Tocopherol 1820

δ-Tocopherol 36

Total, mg/kg 1911

References *inform* 12: 468 (2001)

California Laurel Seed Oil

Umbellularia californica

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C	1.4533
40°C	
Other RI	
Iodine Value	5–6
Saponification Value	275
Titer °C	
% Unsaponifiable	2
Melting Point °C	

Fatty Acid Composition (%)

10:0	21
12:0	70
14:0	2
Total 18:1	5
9c-18:1	5
9c,12c-18:2	2

References *Lipids* 1: 118 (1966)

Camelina Oil (False Flax)*Camelina sativa*

Specific Gravity (SG)	
15.5/15.5°C	0.919–0.928
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.476–1.478
Iodine Value	124–155
Saponification Value	180–194
Titer °C	
% Unsaponifiable	ca. 1
Melting Point °C	
Solidification Point °C	–18 to –11

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–0.5
16:0	4.5–7.1
9c-16:1	0–2
18:0	1–3
Total 18:1	12–24
9c-18:1	9–24
Undefined 18:2	
9c,12c-18:2	12–22.9
Undefined 18:3	33–43.1
20:0	0.4–2

Total 20:1	14–16
11c-20:1	7.8–18.9
20:2	2
Unidentified 20:3	1–2
22:0	0–2
Unidentified 22:1	3
13c-22:1	0–4.5
24:0	0.2–0.3
15c-24:1	0–1

References *inform* 9: 830 (1998)

Camellia Oleifera Seed Oil*Camellia oleifera*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	85
Saponification Value	195.4
Titer °C	
% Unsaponifiable	0.65
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.05
16:0	8.1–11.7
9c-16:1	0.11
18:0	1.8–3.48
Total 18:1	78
9c-18:1	75.1–81.4
7c-18:1	1.09
9c,12c-18:2	5.03–10.5
Undefined 18:3	0.306–0.9
9c,12c,15c-18:3	0.17
20:0	0.07–9
11c-20:1	0.3
22:0	0.43
13c-22:1	0.03
22:2	0.32
24:0	0.17

Tocopherol Composition, mg/kg	
α-Tocopherol	107

β-Tocopherol
 γ-Tocopherol
 δ-Tocopherol
 Total, mg/kg

- References** *Acta Bot. Sin.* 29: 629 (1987)
J. Am Oil Chem. Soc. 80: 1013–1020 (2003)
 S. Li and X. Liu, In: *Cold-pressed oil extraction of camellia seeds*. ICAE 2011 proceedings: 2011 international conference on new technology of agricultural engineering; 2011, pp. 135–138

Camellia Sinensis Seed Oil

Camellia sinensis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.1–14
 16:0 15.3–17.7
 18:0 1.3–3.8
 Total 18:1 42–57.5
 9c-18:1 61.4
 9c,12c-18:2 19.9–37
 20:0 1.1–4
 11c-20:1 0.7–0.9

- References** *Acta Bot. Sin.* 29: 629 (1987)
Int. J Mol. Sci. 12: 7708–7719 (2011)

Camphor Kernel Fat (Camphor Tree)

Cinnamomum camphora

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C 1.4525
 40°C
 Other RI
 Iodine Value 3–4
 Saponification Value 272
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

10:0 0–63
 12:0 34–95
 14:0 0–1
 16:0 0.1
 Total 18:1 1–3
 9c-18:1 3–5
 9c,12c-18:2 0–2

- References** *Lipids 1*: 118 (1966)
Lipids 2: 345 (1967)

Canarium Tramdenum Oil

Canarium tramdenum

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.05
16:0	25.19
9c-16:1	0.45
18:0	5.69
9c-18:1	32.41
7c-18:1	0.64
9c,12a-18:2	34
9c,12c,15c-18:3	0.43
20:0	0.29
11c-20:1	0.08
22:0	0.13
22:2	0.04
24:0	0.09

Tocopherol Composition, mg/kg

α-Tocopherol	51
β-Tocopherol	45
γ-Tocopherol	68
δ-Tocopherol	939
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Candelilla Wax

Euphorbia antisiphilitica/
E. cerifera

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	(20/4) 0.950–0.990

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value 30–35

Saponification Value 50–65

Titer °C

% Unsaponifiable

Melting Point °C 68–70

Fatty Acid Composition (%)**References****Candlenut (Lumbang) Oil**

Aleurites moluccana

Specific Gravity (SG)

15.5/15.5°C	0.924–0.929
25/25°C	

Other SG

Refractive Index (RI)

25°C	1.473–1.479
40°C	

Other RI

Iodine Value 136–167

Saponification Value 188–202

Titer °C

% Unsaponifiable 0.3–1

Melting Point °C

Fatty Acid Composition (%)

16:0	5–9.36
18:0	2.04–7
Total 18:1	11–35
9c-18:1	15.5–25
9c,12c-18:2	33.9–49
Undefined 18:3	24–35

References *Ind. Crop. Prod.* 22: 169–174 (2005)

Cantaloupe Seed Oil

Cucumis melo

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	

Other SG (28) 0.9469–0.9511

Refractive Index (RI)

25°C	1.4725
40°C	

Other RI (28) 1.4765–1.4795

Iodine Value 109.05–126

Saponification Value 190–207

Titer °C

% Unsaponifiable 0.5–1

Melting Point °C

Fatty Acid Composition (%)

8:0	0.036–0.038
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12:0	0.013–0.015
13:0	0.195–0.287
14:0	0–2
9c-14:1	0.026–0.03
15:0	0.033–0.035
16:0	2–12.5
9c-16:1	0.080–0.086
17:0	0.077–0.081
18:0	4.8–11.1
Total 18:1	33
9c-18:1	10.2–32.03
9c,12c-18:2	50.74–71.4
Undefined 18:3	0.188–0.192
20:0	0–0.6
Total 20:1	0.163–0.165
22:0	0–1.1
13c-22:1	0.245–0.249

References *J. Food Compos. Anal.* 14:
69–74 (2001)

Cape Marigold Seed Oil

Dimorphotheca pluvialis

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.905
Other SG	
Refractive Index (RI)	
25°C	1.4891
40°C	1.4837
Other RI	
Iodine Value	167
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	1.8–2
18:0	1.5–2
Total 18:1	16–21
9c,12c-18:2	11–12.4
Undefined 18:3	0.6
20:0	0.9
Total 20:1	0.4–1.1
Other	D9-OH-10t,12t-octadecadienoic acid (dimorphecolic), 53–62

References *Ind. Crop. Prod.* 1: 57 (1992)
J. Am Oil Chem. Soc. 74: 277 (1997)

Caraway Seed Oil

Carum carvi

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(35) 1.4710
Iodine Value	128–129
Saponification Value	178
Titer °C	
% Unsaponifiable	2–3
Melting Point °C	
Solidification Point °C	–7

Fatty Acid Composition (%)

16:0	3–5.2
9c-16:1	0–0.4
18:0	1.1–1.2
9c-18:1	15.7–40
6c-18:1	26–42.5
9c,12c-18:2	30–33.9
Undefined 18:3	0–0.6
20:0	0–0.2
11c-20:1	0–0.2
22:0	0–0.2
Other	0–0.2

References

Carline Thistle Oil

Carlina acaulis/C. corymbosa

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.1
16:0	8
18:0	4–9
9c-18:1	8–10
9c,12c-18:2	50–52
Undefined 18:3	0–0.4
20:0	0.1–0.5

References

Carnauba Wax

Copernicia prunifera

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG (20/4) 0.990–0.999
 Refractive Index (RI)
 25°C
 40°C
 Other RI (90) 1.4500
 Iodine Value 10–15
 Saponification Value 78–89
 Titer °C
 % Unsaponifiable 54–55
 Melting Point °C 82–85.5

Fatty Acid Composition (%)

References

Carob Bean Oil

Ceratonia siliqua

Specific Gravity (SG)
 15.5/15.5°C 0.951
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.4691
 Other RI

Iodine Value 98–99
 Saponification Value 198–205
 Titer °C
 % Unsaponifiable 2.9
 Melting Point °C

Fatty Acid Composition (%)

16:0	8–12
9c-16:1	0.1–0.2
7c-16:1	0.4–0.5
18:0	3.5–10
Total 18:1	20–30.4
7c-18:1	1.4–1.6
9c,12c-18:2	49.1–59
Undefined 18:3	0.5
9c,12c,15c-18:3	1.4–1.7
6c,9c,12c,15c-18:4	0.2–0.4
9c-20:1	0.6
24:0	1

Sterol Composition, %

Cholesterol
 Brassicasterol
 Campesterol
 Stigmasterol
 Stigmasta-8,22-dien-3β-ol
 5α-Stigmasta-7,22-dien-3β-ol
 D7,25-Stigmastadienol
 β-Sitosterol
 D5-Avenasterol
 D7-Stigmasterol
 D7-Avenasterol
 D7-Campesterol
 D7-Ergosterol
 D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg
 16400.94–30191.55

Tocopherol Composition, mg/kg

α-Tocopherol 690.6–703.9
 β-Tocopherol 18.5–23
 γ-Tocopherol 1011.5–1142.9
 δ-Tocopherol 87–106.6
 Total, mg/kg

Tocotrienols Composition, mg/kg	
α-Tocotrienol	16.8–49.4
β-Tocotrienol	0
γ-Tocotrienol	0
δ-Tocotrienol	0
Total Tocotrienols, mg/kg	

References *Scientia Horticulturae* 130:
181–184 (2011)

Carrot Seed Oil

Daucus carota

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(35) 1.472
Iodine Value	105
Saponification Value	179
Titer °C	
% Unsaponifiable	1.5
Melting Point °C	
Solidification Point °C	–6

Fatty Acid Composition (%)

16:0	3.6–6.1
9c-16:1	0–1.4
18:0	0.2–1.1
9c-18:1	2.4–14
6c-18:1	58–72.5
11c-18:1	0–0.4
9c,12c-18:2	10.6–24
Undefined 18:3	0–0.4
20:0	0–0.1
11c-20:1	0–0.3
Other	0–0.9

References

Casca-de Tatu Seed Oil

Heisteria silvanii

Specific Gravity (SG)	
15.5/15.5°C	

25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	3
9c-16:1	0.4
8a,10t-17:2	7
18:0	2
9,10 epoxy-18:0	0.6
Total 18:1	47
Undefined 18:2	1
9c,12c-18:2	1
9a,11t-18:2	3
Undefined 18:3	2
7c,9a,11t-18:3	23
20:0	1
Total 20:1	1
24:0	1
26:0	4
28:0	1
30:0	0.3
Other	8a,10t-17:2, 7:9a; 11t-18:2, 3; 7c:9a; 11t-18:3, 23; 9,10-epoxy-18:0, 0.6; 9a,11a,13c-18:3, 0.4

References *Lipids* 32: 1189 (1997)

Cashew Nut Oil

Anacardium occidentale

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value

Titer °C

% Unsaponifiable 0.9–1.8

Melting Point °C

Fatty Acid Composition (%)

16:0 9–14.2

9c-16:1 0.3–0.4

17:0 0.1–0.2

18:0 6.3–11.6

9c-18:1 57.3–65.1

9c,12c-18:2 15.6–18.6

Undefined 18:3 tr-0.2

20:0 0.3–0.8

References**Cashew Nut Oil***Anacardium occidentale*

Specific Gravity (SG)

15.5/15.5°C 0.911–0.918

25/25°C

Other SG (15/4) 0.911–0.918

Refractive Index (RI)

25°C

40°C 1.462–1.464

Other RI

Iodine Value 60–89

Saponification Value 180–200

Titer °C

% Unsaponifiable 0.4–1.5

Melting Point °C

Solidification Point °C 28–30

Fatty Acid Composition (%)

16:0 4–17

16:1 0.3–0.4

9c-16:1 0.3–0.5

17:0 tr-0.2

18:0 2–11.6

Total 18:1 57–80

9c-18:1 74.1

Undefined 18:2 15.6–20.58

9c,12c-18:2 7.7–22

Undefined 18:3 tr-0.3

20:0 0.3–0.8

Sterol Composition, %

Cholesterol 0.3–1.3

Brassicasterol

Campesterol 6–9

Stigmasterol tr-2

Stigmasta-8,22-dien-3 β -ol5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol 1.3

 β -Sitosterol 75–83

D5-Avenasterol 6–10.6

D7-Stigmasterol 0.3

D7-Avenasterol 0.4

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other Fucosterol, 0.6–0.8

% sterols in oil

Total Sterols, mg/kg 1840

Tocopherol Composition, mg/kg

 α -Tocopherol 28–75 β -Tocopherol γ -Tocopherol 450–835 δ -Tocopherol 20–60

Total, mg/kg 600–950

References *Fat Sci. Technol.* 91: 23 (1989)*J. Am Oil Chem. Soc.* 70: 1017 (1993)*J. Am Oil Chem. Soc.* 74: 375-380 (1997)*J. Am Oil Chem. Soc.* 75: 807-811 (1998)**Cassava Oil***Manihot esculenta*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.466–1.468

Other RI

Iodine Value 117–144

Saponification Value 187–194

Titer °C

% Unsaponifiable	0.9
Melting Point °C	
Solidification Point °C	4

Fatty Acid Composition (%)**References****Cassia Alata Oil (Ringworm Shrub)***Cassia alata*

Specific Gravity (SG)	
15.5/15.5°C	0.8898
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4681
40°C	
Other RI	
Iodine Value	91
Saponification Value	165
Titer °C	
% Unsaponifiable	4–5.5
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.6–3
14:0	2–4
16:0	10–30
9c-16:1	0.8–1
18:0	5–5.3
Total 18:1	13–37
9c-18:1	18.4
9c,12c-18:2	38–47
Undefined 18:3	1–1.2
20:0	2–2.1
Total 20:1	0.2
22:0	1–1.3
24:0	0.6

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	6
Stigmasterol	21
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	

β -Sitosterol	33
D5-Avenasterol	2
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	Fucosterol, 3;
	25(27)-Dihydrochondrillasterol,
	3; 22-Dihydrospinasterol, 20;
	28-Isoavenasterol, 5
% sterols in oil	
Total Sterols, mg/kg	

References *Rev. Franc. Corps Gras* 33: 382 (1986)
Food Chem. 30: 205 (1988)

Cassia Occidentalis Oil (Wild Coffee)*Cassia occidentalis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(60) 0.9219–0.9225
Refractive Index (RI)	
25°C	
40°C	
Other RI	(30) 1.4742–1.4744
Iodine Value	114
Saponification Value	179
Titer °C	
% Unsaponifiable	0.78–8.1
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–0.7
14:0	0.07–0.9
16:0	14.1–20.1
16:1	0.2–0.4
9c-16:1	0.2–1
17:0	0.08–0.12
18:0	1.6–8.4

Total 18:1	16
9c-18:1	16.5–24.3
Undefined 18:2	44.7–45.3
9c,12c-18:2	40.9–54
Undefined 18:3	1.3–5.3
20:0	0.5–6.4
22:0	0–0.7
24:0	0–0.3

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	11
Stigmasterol	32
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	22
D5-Avenasterol	1–2
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	Fucosterol, 1–2; 25(27)-Dihydrochondrillasterol, 6; 22-Dihydrospinasterol, 16; 28-Isoavenasterol, 5
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	5–207
β -Tocopherol	7–11
γ -Tocopherol	30–32
δ -Tocopherol	1–5
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	0–1
β -Tocotrienol	
γ -Tocotrienol	0–1
δ -Tocotrienol	0–1
Total Tocotrienols, mg/kg	

References *Rev. Franc. Corps Gras* 33: 382 (1986)

Grasas y Aceites 59: 321–326 (2008)

Cassia Seed Oil

Cassia obtusifolia

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.09–0.11
16:0	19.7–20.3
16:1	0.48–0.72
17:0	0.09–0.11
18:0	9.48–9.72
9c-18:1	24.1–24.7
Undefined 18:2	38.1–38.3
Undefined 18:3	0.99–1.01
20:0	1.89–1.91
Total 20:1	0.29–0.31
24:0	0.49–0.51
15c-24:1	0.09–0.11

Tocopherol Composition, mg/kg

α -Tocopherol	346–354
β -Tocopherol	5–7
γ -Tocopherol	89–93
δ -Tocopherol	1–3
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	0–1
β -Tocotrienol	
γ -Tocotrienol	0–1
δ -Tocotrienol	0–1
Total Tocotrienols, mg/kg	

References *Grasas y Aceites* 59: 321–326 (2008)

Cassia Siamea Seed Oil

Cassia siamea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	101
Saponification Value	197
Titer °C	
% Unsaponifiable	7
Melting Point °C	

Fatty Acid Composition (%)

16:0	16.4–19.5
9c-16:1	0–0.3
18:0	5.8–8
Total 18:1	12
9c-18:1	11.6–13.9
9c,12c-18:2	42.7–55.9
Undefined 18:3	0.7–3.4
20:0	0–2.6
22:0	0–2.5
Other	Vernolic, 14; malvalic, 2; sterculic, 3

References *J. Am Oil Chem. Soc.* 65: 952 (1993)

Cassia Siberiana Seed Oil

Cassia siberiana

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.7
14:0	1
16:0	16
9c-16:1	0.5
18:0	4–4.3
Total 18:1	32
9c-18:1	31.6
9c,12c-18:2	40.9–43
Undefined 18:3	1
20:0	1–2
Total 20:1	0.5
11c-20:1	0.8
22:0	0.6–0.8
24:0	0.4

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	11
Stigmasterol	22
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	61
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	Fucosterol, 4
% sterols in oil	
Total Sterols, mg/kg	

References *Rev. Franc. Corps Gras* 33: 382 (1986)

Castor Oil

Ricinus communis

Specific Gravity (SG)	
15.5/15.5°C	0.956–0.970
25/25°C	0.945–0.965
Other SG (15/4)	0.958–0.969
Refractive Index (RI)	
25°C	1.473–1.477
40°C	1.466–1.473
Other RI (15)	1.4790–1.4813
Iodine Value	81–91
Saponification Value	176–187
Titer °C	
% Unsaponifiable	0.8–1.2
Melting Point °C	–18 to –10

Fatty Acid Composition (%)

14:0	0–0.1
16:0	0.9–2
17:0	0–0.2
18:0	0.7–2
Total 18:1	2.9–6
9c-18:1	3–5.6
9c,12c-18:2	3–6
Undefined 18:3	0–0.9
20:0	0–0.4
11c-20:1	0–0.9
22:0	2.1
Other Ricinoleic, 88;	
dihydroxystearic, 1	

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	10
Stigmasterol	22
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	44–56
D5-Avenasterol	11–21
D7-Stigmasterol	0–2
D7-Avenasterol	1
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

References *J. Am Oil Chem. Soc.* 24: 27 (1947)

J. Am Oil Chem. Soc. 34: 513 (1962)

Prog. Lipid Res. 22: 161 (1983)

Riv. Ital. Sost. Grasse 62: 375 (1985)

J. Am Oil Chem. Soc. 74: 277 (1997)

Cay-Cay Fat

Irvingia oliveri

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG (40/40)	0.9133
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	6–7
Saponification Value	235
Titer °C	
% Unsaponifiable	
Melting Point °C	40

Fatty Acid Composition (%)

12:0	39
14:0	55.5–56
Total 18:1	5
9c-18:1	5

References

Celastrus Orbiculatus Seed Oil

Celastrus orbiculatus

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.2
16:0	21–21.1
9c-16:1	0.2
17:0	0.1
18:0	4–4.1
Total 18:1	9
9c-18:1	8.8
9c,12c-18:2	31–31.4
Undefined 18:3	29.5–30
20:0	0.5
Total 20:1	0.6
11c-20:1	0.6
22:0	.tr
Unidentified 22:1	1.6
13c-22:1	1.6
24:0	0.2

References *Lipids* 9: 928 (1974)

Celery Seed Oil

Apium graveolens

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)

25°C	1.478
40°C	
Other RI	(35) 1.4783

Iodine Value 95

Saponification Value 178

Titer °C

% Unsaponifiable 0.8

Melting Point °C

Solidification Point °C –12

Fatty Acid Composition (%)

16:0	3–6.1
18:0	0.9
9c-18:1	7.7–26
6c-18:1	50–65.7

9c,12c-18:2	17.8–20
Undefined 18:3	0–0.2

References**Chaulmoogra Oil**

Hydnocarpus spp.

Specific Gravity (SG)

15.5/15.5°C	ca. 0.957
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	1.4751–1.4771
Other RI	

Iodine Value 95–105

Saponification Value 197–215

Titer °C

% Unsaponifiable 0.3

Melting Point °C 22–26 (pressed), 33–39
 (extracted)

Solidification Point °C 9–14 (pressed),
 18–20 (extracted)

Fatty Acid Composition (%)

14:0	0–0.2
16:0	0–10.9
9c-16:1	0–4.1
18:0	0–1.4
9c-18:1	0–7.4
11c-18:1	0–2
9c,12c-18:2	0–1.3

References**Cherry Kernel (Cherry Stone) Oil**

Prunus cerasus

Specific Gravity (SG)

15.5/15.5°C	0.920–0.927
25/25°C	0.916–0.925
Other SG	

Refractive Index (RI)

25°C	1.4753–1.4769
40°C	1.466–1.471

Other RI	
Iodine Value	110–118
Saponification Value	190–198
Titer °C	
% Unsaponifiable	0.4–0.9
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2
16:0	4–9
18:0	2–3
Total 18:1	35–49
9c-18:1	49.5
Undefined 18:2	40–45
9c,12c-18:2	42–45
9c,11t,13t-18:3	3–10
20:0	0–0.8

Sterol Composition, %

Cholesterol	0.5
Brassicasterol	
Campesterol	8
Stigmasterol	7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	69
D5-Avenasterol	9
D7-Stigmasterol	2
D7-Avenasterol	1
D7-Campesterol	3
D7-Ergosterol	
D7,25-Stigmasterol	1
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	0.8
Total Sterols, mg/kg	

References *Palm Oil Tech. Bull.* 2: 8 (1996)
Riv. Ital. Sost. Grasse 75: 405 (1998)

Cherry Kernel Oil*Prunus avium*

Specific Gravity (SG)
 15.5/15.5°C

25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	113
Saponification Value	192
Titer °C	
% Unsaponifiable	0.66
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–0.3
16:0	3.9–15
16:1	0.3–0.6
9c-16:1	0.4–0.6
18:0	0.9–6.1
Total 18:1	31.8–52.9
9c-18:1	23.9–37.5
Undefined 18:2	35–47.1
9c,12a-18:2	40–48.9
9c,12c-18:2	40–49
Undefined 18:3	0.5–10.1
9c,12c,15c-18:3	tr-1
9c,11t,13t-18:3	9.9–13.2
20:0	tr-1.4
Total 20:1	tr-0.5
11c-20:1	tr-0.5

Sterol Composition, %

Cholesterol	1.7
Brassicasterol	0.6
Campesterol	2.8
Stigmasterol	6.1
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	77.3
D5-Avenasterol	7
D7-Stigmasterol	2.5
D7-Avenasterol	1.8
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	0.3
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	

Other	
% sterols in oil	0.2
Total Sterols, mg/kg	

- References** *J. Am Oil Chem. Soc.* 69: 1224 (1992)
Riv. Ital. Sost. Grasse 75: 405 (1998)
J. Am Oil Chem. Soc. 69: 492–494 (1992)
Chem. Nat. Compd. 38: 5 (2002)

Cherry Laurel Oil

Prunus laurocerasus

Specific Gravity (SG)	
15.5/15.5°C	0.923
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	77–109
Saponification Value	194
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	ca. –20

Fatty Acid Composition (%)

References

Chervil Seed Oil

Anthriscus spp.

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(35) 1.467
Iodine Value	110
Saponification Value	183
Titer °C	
% Unsaponifiable	1.5
Melting Point °C	

Solidification Point °C	–9
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Fatty Acid Composition (%)

16:0	3.1–5
18:0	0–1.5
9c-18:1	0.5–11.7
6c-18:1	41–70.2
9c,12c-18:2	14–53.5
Undefined 18:3	0–0.2

References

Chestnut Oil (Chinese)

Castanea mollissima

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	10.9–15
9c-16:1	0.7
18:0	1
Total 18:1	45.8–54
Undefined 18:2	38.7
9c,12c-18:2	25
Undefined 18:3	2–4.2
Total 20:1	1
22:0	0.2

- References** *J. Food Technol.* 13: 355 (1978)
J. Sci. Food Agric. 65: 223–227 (1994)

Chia Oil

Salvia hispanica

Specific Gravity (SG)	
15.5/15.5°C	

25/25°C	0.9330
Other SG	
Refractive Index (RI)	
25°C	1.4812
40°C	1.4753
Other RI	
Iodine Value	191–199
Saponification Value	192
Titer °C	
% Unsaponifiable	1.2
Melting Point °C	
Solidification Point °C	–15

Fatty Acid Composition (%)

16:0	4.43–9.9
9c-16:1	0–0.8
18:0	2.9–16.2
Total 18:1	4–7
9c-18:1	5.78–21.3
9c,12c-18:2	15.3–46.3
Undefined 18:3	6.3–69
22:0	0–0.5
13c-22:1	0–0.4

References *Lipids* 2: 371 (1967)

J. Am Oil Chem. Soc. 87: 1161–1165
(2010)

J. Am Oil Chem. Soc. 72: 1079–1081
(1995)

Chickling Vetch Seed Oil*Lathyrus sativus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.31–0.8
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16:0	7–10.91
9c-16:1	0.3–1.54
18:0	6.41–15
Total 18:1	15.82–60
Undefined 18:2	55.99–58.31
9c,12c-18:2	14–15
Undefined 18:3	1–7.7
20:0	0.3–0.8
22:0	0.3–0.5

Sterol Composition, %

Cholesterol	1.1–1.6
Brassicasterol	
Campesterol	11–13
Stigmasterol	20–26
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	54–58
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	4
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 71: 567
(1994)

J. Sci. Food Agric. 79: 2075–2078 (1999)

**Chinese Melon Seed Oil
(Bitter Gourd)***Momordica charantia*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4845–1.4945
40°C	

Other RI	
Iodine Value	112.5–119.42
Saponification Value	188.88–192.52
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

8:0	0–0.31
10:0	0–0.14
12:0	0–0.72
14:0	0–0.32
16:0	1.5–2.47
9c-16:1	0.1–0.2
18:0	17.4–36.91
Total 18:1	2.6–4.0
9c-18:1	1.62–14.6
7c-18:1	0.11
9c,12c-18:2	3–8.6
Undefined 18:3	0.5–60.6
9c,12c,15c-18:3	0.07
9c,11t,13t-18:3	45.24–68
20:0	0.3–0.57
11c-20:1	0.3–0.34
22:0	1.12
22:2	0.06
24:0	0.03

Tocopherol Composition, mg/kg

α-Tocopherol	398
β-Tocopherol	1
γ-Tocopherol	492
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	30
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 73: 263

(1996)

J. Am Oil Chem. Soc. 80: 1013–1020

(2003)

J Am Oil Chem. Soc. 86: 27–32 (2009)**Chinese Soapberry Seed Oil***Sapindus mukorossi*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9040
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4632
Other RI	(28) 1.4680
Iodine Value	78–80
Saponification Value	197
Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	4–6
16:1	0.5
9c-16:1	0–0.5
18:0	0.2–1.39
Total 18:1	54–63
9c-18:1	52.39–62.8
7c-18:1	2.43
Undefined 18:2	5–14
9c,12c-18:2	4.6–14
Undefined 18:3	0.7–6
9c,12c,15c-18:3	1.37
20:0	4–6.4
Total 20:1	15–22
11c-20:1	15–22.4
22:0	0.86
13c-22:1	0.75
24:0	0.5

Tocopherol Composition, mg/kg

α-Tocopherol	66
β-Tocopherol	
γ-Tocopherol	208
δ-Tocopherol	26
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	31
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *Lipids* 10: 33 (1975)
Fette Seifen Anstrichm. 73: 639 (1971)

**Chinese Vegetable Tallow
(Mesocap Fat; Chinese
Tallow Tree)**

Sapium sebiferum

Specific Gravity (SG)
 15.5/15.5°C..... 0.918
 25/25°C..... 0.890
 Other SG

Refractive Index (RI)
 25°C
 40°C 1.455–1.4574
 Other RI

Iodine Value 16–33
 Saponification Value 199–218
 Titer °C
 % Unsaponifiable 0.4–1.3
 Melting Point °C..... 42–53
 Solidification Point °C 35–40

Fatty Acid Composition (%)
 12:0..... 0–2.5
 14:0..... 0–4.2
 16:0..... 57–72
 18:0..... 1–8
 Total 18:1 20–35
 9c-18:1 27–35
 9c,12c-18:2..... 0–2
 Undefined 18:3 0–4.2

References

Chirongi Oil

Buchanania latifolia

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value 63

Saponification Value 193
 Titer °C
 % Unsaponifiable 0.6
 Melting Point °C

Fatty Acid Composition (%)
 14:0..... 0.1–0.2
 16:0..... 29–31
 18:0..... 8
 Total 18:1 55–58
 Undefined 18:2..... 5–6

References *inform* 13: 151 (2002)

**Chrysanthemum
Coronarum Oil**

Chrysanthemum coronarium

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)
 14:0..... 0.07
 16:0..... 9.40
 9c-16:1 0.11
 18:0..... 2.25
 9c-18:1 3.91
 7c-18:1 0.51
 9c,12c-18:2..... 77.75
 9c,12c,15c-18:3 0.14
 20:0..... 0.49
 11c-20:1 0.11
 22:0..... 0.24
 13c-22:1 0.03
 22:2..... 0.09

Tocopherol Composition, mg/kg
 α-Tocopherol 929

β -Tocopherol	49
γ -Tocopherol	31
δ -Tocopherol	31
Total, mg/kg	

Tocotrienols Composition, mg/kg	
α -Tocotrienol	
β -Tocotrienol	
γ -Tocotrienol	35
δ -Tocotrienol	28
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Chufa (Tigernut, Nut-sedge) Oil

Cyperus esculentus

Specific Gravity (SG)	
15.5/15.5°C	0.917–0.924
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4680
40°C	
Other RI	
Iodine Value	74–89
Saponification Value	190–194
Titer °C	
% Unsaponifiable	ca. 0.6
Melting Point °C	
Solidification Point °C	< 3

Fatty Acid Composition (%)

14:0	0.4
16:0	12–20.6
18:0	5–8.9
9c-18:1	58.8–73
9c,12c-18:2	6–15
Unidentified 18:3	1.2
20:0	0.1

References

Cimicifuga Racemosa Oil

Cimicifuga racemosa

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	tr
14:0	0.1
15:0	tr
16:0	5.4
9c-16:1	tr
11c-16:1	1.1
17:0	tr
18:0	2.6
Total 18:1	1.9
9c-18:1	7
9c,12c-18:2	29
9c,12c,15c-18:3	8.2
5,9c,12c,15c-18:4	0.9
19:0	0.1
20:0	1.8
11c-20:1	18.6
15c-20:1	0.4
20:2	0.8–4.8
Unidentified 20:3	2.2
5,11c,14c-20:3	5.8
5c,11c,14c,17–20:4	8
22:0	0.3
13c-22:1	tr
24:0	0.1

References *J. Am Oil Chem. Soc.* 75:
1761–1765 (1998)

Citrullus Colocynthis Oil*Citrullus colocynthis*

Specific Gravity (SG)	
15.5/15.5°C	0.919
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4730
40°C	
Other RI	
Iodine Value	122
Saponification Value	189
Titer °C	
% Unsaponifiable	1.4
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.1–0.4
15:0	tr
16:0	11.7–13.5
9c-16:1	0–0.3
18:0	6–10.6
9c-18:1	11.4–25
9c,12c-18:2	50.6–63.4
Undefined 18:3	0–0.8
9c,12c,15c-18:3	0.1
20:0	0–0.3
11c-20:1	tr

References *J. Am Oil Chem. Soc.* 69: 314–316 (1992)
J. Chem. Pharm. Res. 4: 1486–1488 (2012)

Citrus Seed Oil*Citrus spp.*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	99–106
Saponification Value	192–197

Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–1.2
16:0	23.3–29.8
9c-16:1	0–1
18:0	3–6
Total 18:1	23
9c-18:1	20.1–28.2
Undefined 18:2	37.8
9c,12c-18:2	29.6–39.6
Undefined 18:3	5.1–9
20:0	0–0.8

References**Cloudberry Seed Oil***Rubus chamaemorus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.4
16:0	3
9c-16:1	0.4
7c-16:1	0.5
18:0	1–2
Total 18:1	16
9c-18:1	15
9c,12c-18:2	40–46
9c,12c,15c-18:3	32
20:0	0.1
Total 20:1	0.7
20:2	4–5

22:0	0.5
22:2	2

References *Lipids* 31: 1311 (1976)

Cocoa Butter

Theobroma cocoa

Specific Gravity (SG)	
15.5/15.5°C	0.970–0.988
25/25°C	0.973–0.980
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.456–1.458
Other RI	
Iodine Value	32–42
Saponification Value	190–200
Titer °C	
% Unsaponifiable	0.2–1.0
Melting Point °C	30–35
Solidification Point °C	45–50

Fatty Acid Composition (%)

14:0	0–0.2
16:0	24–35.5
9c-16:1	0–0.3
17:0	0.1
18:0	31–38
Total 18:1	31–35.3
9c-18:1	30–38
9c,12c-18:2	1.4–4.2
Undefined 18:3	0.1
20:0	0–1.1

Sterol Composition, %

Cholesterol	1
Brassicasterol	
Campesterol	8–11
Stigmasterol	24–31
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	58–63
D5-Avenasterol	3–5
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	

D7,25-Stigmasterol
Sitostanol
Spinasterol
Squalene
24-Methylene Cholesterol
Other
% sterols in oil
Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α-Tocopherol	1–19
β-Tocopherol	0–10
γ-Tocopherol	18–196
δ-Tocopherol	0–17
Total, mg/kg	25–220

References *J. Am Oil Chem. Soc.* 62: 1047 (1985)

Lebensmittelchem. Gerichtl. Chem. 36: 53 (1982)

J. Am Oil Chem. Soc. 53: 732 (1976)

J. Am Oil Chem. Soc. 73: 1217 (1996)

Fette Seifen Anstrichm. 87: 150 (1985)

Deutsche Lebensm. Rundschau 72: 6 (1976)

J. Am Oil Chem. Soc. 64: 100 (1987)

Coconut Oil

Cocos nucifera

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(40/20) 0.908–0.921; (15/4) 0.92–0.93
Refractive Index (RI)	
25°C	
40°C	1.448–1.450
Other RI	
Iodine Value	5–13
Saponification Value	242–265
Titer °C	
% Unsaponifiable	0–1.5
Melting Point °C	21–26
Fatty Acid Composition (%)	
6:0	0–2
8:0	0.91–10
10:0	3.78–11

12:0	45–51
14:0	16–21.09
16:0	4–10.2
18:0	1–5
Total 18:1	5.4–9.9
9c-18:1	2–16.5
Undefined 18:2	0.56–1.8
9c,12c-18:2	0.8–2.1
Undefined 18:3	0–0.2
20:0	0–0.2
Total 20:1	0–0.2
Sterol Composition, %	
Cholesterol	0.6–3.0
Brassicasterol	0–0.9
Campesterol	3.1–11.2
Stigmasterol	5.4–15.6
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	19.7–50.7
D5-Avenasterol	13–40.7
D7-Stigmasterol	0–3.0
D7-Avenasterol	0–3.0
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–3.6
% sterols in oil	
Total Sterols, mg/kg	470–1140
Tocopherol Composition, mg/kg	
α -Tocopherol	0–17
β -Tocopherol	0–11
γ -Tocopherol	0–14
δ -Tocopherol	
Total, mg/kg	
Tocotrienols Composition, mg/kg	
α -Tocotrienol	0–44
β -Tocotrienol	
γ -Tocotrienol	
δ -Tocotrienol	
Total Tocotrienols, mg/kg	0–44

References *Codex CX* 1993/16*J. Am Oil Chem. Soc.* 75: 807–811 (1998)**Coffee Bean Oil (Raw, Brazil)***Coffea arabica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4790
40°C	
Other RI	
Iodine Value	100
Saponification Value	184–195
Titer °C	
% Unsaponifiable	8–11
Melting Point °C	

Fatty Acid Composition (%)

16:0	31.2–42
17:0	0.10–0.11
18:0	5.9–11
Total 18:1	8–10
9c-18:1	8.2–11.5
11c-18:1	0.4–0.6
9c,12c-18:2	36–45.9
Undefined 18:3	1.3–1.7
20:0	2.2–7
Total 20:1	0.32–7
22:0	0.4–7
Unidentified 22:1	4–7
24:0	0.23–7
15c-24:1	4–7

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	19
Stigmasterol	20
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	54
D5-Avenasterol	6
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	

Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg

References *J. Agric. Food Chem.* 57: 23
 (2009)
J. Agric. Food Chem. 56: 2273–2280
 (2008)

Coffee Bean Oil (Raw, Ethiopia, Arabia)

Coffea arabica

Specific Gravity (SG)
 15.5/15.5°C 0.928–0.952
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C 1.4678–1.4691
 40°C
 Other RI
 Iodine Value 76–101
 Saponification Value 149–195
 Titer °C
 % Unsaponifiable 6–10 (extraction)
 Melting Point °C 8–9
 Solidification Point °C 3–11

Fatty Acid Composition (%)

14:0 >2
 16:0 20.2–23.6
 18:0 1.1–9.1
 9c-18:1 12.4–20.2
 9c,12c-18:2 25.5–37.6
 20:0 >2

References

Coffee Bean Oil (Roasted)

Coffea arabica

Specific Gravity (SG)
 15.5/15.5°C 0.928–0.952
 25/25°C
 Other SG

Refractive Index (RI)
 25°C 1.468–1.477
 40°C
 Other RI
 Iodine Value 78–96
 Saponification Value 165–195
 Titer °C
 % Unsaponifiable 6–10
 Melting Point °C

Fatty Acid Composition (%)

16:0 30–32
 18:0 7–8
 Total 18:1 23
 9c,12c-18:2 32

References *J. Am Oil Chem. Soc.* 45: 577
 (1968)
J. Am Oil Chem. Soc. 50: 122 (1973)

Cohune Nut Oil (Palm Oil)

Attalea cohune

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C 0.916–0.918
 Other SG (199/15) 0.868–0.871
 Refractive Index (RI)
 25°C
 40°C 1.449–1.450
 Other RI
 Iodine Value 8–14
 Saponification Value 250–260
 Titer °C
 % Unsaponifiable 0.2–0.5
 Melting Point °C

Fatty Acid Composition (%)

6:0 0.3
 8:0 4–9
 10:0 6–8
 11:0 0.1
 12:0 42.4–48
 14:0 16–18.7
 16:0 7–10
 18:0 2.1–4
 Total 18:1 8–10
 9c-18:1 14.9
 9c,12c-18:2 1–3.6

References *J. Am. Dietetic Assn.* 68: 224 (1976)

Coincya Longirostra Oil

Coincya longirostra

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 3.3–4.3

16:1 0.3

9c-16:1 0.2–0.4

18:0 1.3–1.5

Total 18:1 14.2

9c-18:1 13.4–15

Undefined 18:2 14.8

9c,12c-18:2 13.2–16.4

Undefined 18:3 25.3–30.1

20:0 0.9–1.3

Total 20:1 6.0

11c-20:1 5.8–6.2

20:2 1.2

21:1 0.6

22:0 0.5–1.3

Unidentified 22:1 27.6

13c-22:1 24.8–30.4

22:2 0.9

References *J. Am Oil Chem. Soc.* 70: 1157–1158 (1993)

Coincya Monensis Oil

Coincya monensis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 2.8–5.1

16:1 0.4–0.8

9c-16:1 0.2–0.8

18:0 1.5–2.2

Total 18:1 14.5–21.8

9c-18:1 14.9–25.5

Undefined 18:2 13.9–24.6

9c,12c-18:2 13.1–17.6

Undefined 18:3 17.4–30.1

20:0 0.9–1.4

Total 20:1 6.2–8.7

11c-20:1 0.6–1.1

20:2 0.6–1.2

21:1 0.3–0.6

22:0 0.3–1.7

Unidentified 22:1 24.6–28.6

13c-22:1 23.9–32.1

22:2 0.3–0.7

References *J. Am Oil Chem. Soc.* 70: 1157–1158 (1993)

Coincya Rupestris Oil

Coincya rupestris

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	2.9–4.7
16:1	0.4–0.7
9c-16:1	0.3–1.1
18:0	1.2–1.8
Total 18:1	13.5–14.4
9c-18:1	10.6–16.4
Undefined 18:2	14.3–16.3
9c,12c-18:2	11–21.6
Undefined 18:3	21.4–27.8
20:0	0.8–1.2
Total 20:1	5.9–6.1
11c-20:1	5.1–6.7
20:2	0.5–1.2
21:1	0.5–0.8
22:0	0.5–1.3
Unidentified 22:1	29.8–30.5
13c-22:1	26–33.6
22:2	0.4–0.9

References *J. Am Oil Chem. Soc.* 70:
 1157–1158 (1993)

Coincya Transtagana Oil*Coincya transtagana*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	3.9–6.1
16:1	0.4

9c-16:1	0.2–0.6
18:0	1.3–1.5
Total 18:1	12.3
9c-18:1	10.3–14.3
Undefined 18:2	17.5
9c,12c-18:2	15.2–14.3
Undefined 18:3	22.8–28
20:0	0.8–1
Total 20:1	5.2
11c-20:1	4.6–5.8
20:2	1
21:1	0.6
22:0	0.6–1
Unidentified 22:1	28.6
13c-22:1	21.6–35.6
22:2	0.8

References *J. Am Oil Chem. Soc.* 70:
 1157–1158 (1993)

Common Hawthorn Oil*Crataegus monogyna*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 1

Melting Point °C

Fatty Acid Composition (%)

16:0	6.4
9c-16:1	0.5
18:0	1.4
9c-18:1	34.9
11c-18:1	1
9c,12c-18:2	51.9
Undefined 18:3	0.9
20:0	1
11c-20:1	1
22:0	0.4

13c-22:1	0.3
24:0.....	0.3

References

Common Hop Oil

Humulus lupulus

Specific Gravity (SG)

- 15.5/15.5°C
- 25/25°C
- Other SG

Refractive Index (RI)

- 25°C
- 40°C
- Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0.....	7
18:0.....	3
9c-18:1.....	10
9c,12c-18:2.....	60
Undefined 18:3.....	15
6c,9c,12c-18:3.....	5

References

Common Jasmine Oil

Jasminum officinale

Specific Gravity (SG)

- 15.5/15.5°C
- 25/25°C
- Other SG

Refractive Index (RI)

- 25°C
- 40°C
- Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable	0.3
Melting Point °C	

Fatty Acid Composition (%)

14:0.....	1.2
16:0.....	4.4
18:0.....	6
9c-18:1.....	80.4
9c,12c-18:2.....	6.9
20:0.....	1.1

References

Common Juniper Oil

Juniperus communis

Specific Gravity (SG)

- 15.5/15.5°C
- 25/25°C
- Other SG

Refractive Index (RI)

- 25°C
- 40°C
- Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0.....	0.1
16:0.....	5.3
9c-16:1.....	0.1
17:0.....	0.1
18:0.....	2
9c-18:1.....	10.7
11c-18:1.....	0.3
9c,12c-18:2.....	36.8
Undefined 18:3.....	12.6
5c,9c,12c-18:3.....	0.3
20:0.....	1
11c-20:1.....	0.8
22:0.....	0.3

References

Comphrey Seed Oil*Symphytum officinale*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.4

16:0 6.7

18:0 1.5

Total 18:1 17.1

9c,12c-18:2 44.1

6c,9c,12c-18:3 25.8

9c,12c,15c-18:3 2.4

6c,9c,12c,15c-18:4 1.2

References *J. Sci. Food Agric.* 54: 309
(1991)

Connarus Paniculatus Oil*Connarus paniculatus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.2

16:0 25.21

9c-16:1 0.10

18:0 4.01

9c-18:1 30.05

7c-18:1 0.62

9c,12c-18:2 37.87

9c,12c,15c-18:3 0.5

20:0 0.23

11c-20:1 0.29

22:0 0.25

Tocopherol Composition, mg/kg

 α -Tocopherol 355 β -Tocopherol 65 γ -Tocopherol 61 δ -Tocopherol

Total, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Corchorus Olitorius Oil*Corchorus olitorius*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.08

16:0 14.08–49.4

9c-16:1 0.18

18:0 2.82–13.1

9c-18:1 9.58–17

7c-18:1 1.18

9c,12c-18:2 12.9–66.39

Undefined 18:3 7.4

9c,12c,15c-18:3 1.96

20:0 0.88

11c-20:1	0.26
22:0	1.25

Tocopherol Composition, mg/kg

α-Tocopherol	397
β-Tocopherol	38
γ-Tocopherol	1237
δ-Tocopherol	32
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Cordia Rothii Seed Oil*Cordia rothii*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value 90

Saponification Value

Titer °C

% Unsaponifiable 2

Melting Point °C

Fatty Acid Composition (%)

14:0	2
16:0	33
18:0	2
Total 18:1	8
Undefined 18:2	40
Other	Ricinoleic, 11; malvalic 2–3; sterculic 1–2

References *J. Sci. Food Agric.* 58: 285 (1992)

Coriander Seed Oil*Coriandrum sativum*

Specific Gravity (SG)

15.5/15.5°C	0.9267
25/25°C	0.9110

Other SG

Refractive Index (RI)

25°C	1.4635
40°C	

Other RI (30) 1.4704, (35) 1.471

Iodine Value 86–109

Saponification Value 177–191

Titer °C

% Unsaponifiable 1–2

Melting Point °C

Solidification Point °C –2

Fatty Acid Composition (%)

12:0	0.1
14:0	0–0.8
16:0	2.91–8
9c-16:1	0–0.8
18:0	0.5–2
Total 18:1	32
9c-18:1	4.6–45.5
6c-18:1	31.3–75.1
7c-18:1	0–0.82
9c,12c-18:2	7–17.37
Undefined 18:3	0–0.7
9c,12c,15c-18:3	0.2
20:0	0–0.2
Total 20:1	0.19–0.27
11c-20:1	0–0.4
22:0	0–0.1
22:2	0.06
24:0	0.07
Other	0–0.5

Tocopherol Composition, mg/kg

α-Tocopherol	46
β-Tocopherol	
γ-Tocopherol	31
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	96
β-Tocotrienol	
γ-Tocotrienol	231
δ-Tocotrienol	41
Total Tocotrienols, mg/kg	

References *Bangladesh J. Sci. Ind. Res.* 17: 172 (1982)
Bangladesh J. Sci. Ind. Res. 26: 33 (1993)

J. Am Oil Chem. Soc. 80: 1013–1020
(2003)

Chem. Nat. Compd. 45: 1 (2009)

Corn Oil (High Oleic)

Zea mays

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 10–16

18:0 2

Total 18:1 44–64

9c,12c-18:2 20–38

Undefined 18:3 0.8–1.0

20:0 1

References *J. Am Oil Chem. Soc.* 72: 989

(1995)

Corn Oil (Low Saturate)

Zea mays

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 6–8

18:0 1

Total 18:1 25–31

9c,12c-18:2 58–64

Undefined 18:3 0.8–0.9

20:0 0.5

References *J. Am Oil Chem. Soc.* 72: 989

(1995)

Corn Oil (Maize)

Zea mays

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.916–0.921

Other SG (20/20) 0.917–0.925

Refractive Index (RI)

25°C 1.470–1.474

40°C 1.465–1.468

Other RI

Iodine Value 107–135

Saponification Value 156–196

Titer °C

% Unsaponifiable 1–3

Melting Point °C –18 to –10

Ignition Point °C 393

Flash Point °C 321

Fatty Acid Composition (%)

12:0 0–0.3

14:0 0–1.7

16:0 8–16.5

16:1 0

9c-16:1 0–1.6

17:0 0–0.1

18:0 0–4.5

Total 18:1 20–42.2

9c-18:1 19–49

Undefined 18:2 44.7

9c,12c-18:2 34–65.6

Undefined 18:3 0–1.5

20:0 0–0.7

Total 20:1 0–0.4

11c-20:1 0–0.3

20:2 0–0.1

22:0 0–0.5

Unidentified 22:1	0–0.1
24:0	0–0.4
Sterol Composition, %	
Cholesterol	0.2–0.6
Brassicasterol	0–0.2
Campesterol	18.6–24.1
Stigmasterol	4.3–7.7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	54.8–66.6
D5-Avenasterol	4.2–8.2
D7-Stigmasterol	1.0–4.2
D7-Avenasterol	0.7–2.7
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–2.4
% sterols in oil	
Total Sterols, mg/kg	7950–22150
Tocopherol Composition, mg/kg	
α -Tocopherol	23–573
β -Tocopherol	0–356
γ -Tocopherol	268–2468
δ -Tocopherol	23–75
Total, mg/kg	331–3716
Tocotrienols Composition, mg/kg	
α -Tocotrienol	0–239
β -Tocotrienol	
γ -Tocotrienol	0–450
δ -Tocotrienol	0–20
Total Tocotrienols, mg/kg	0–709

References *Codex 1997/17**J. Am Oil Chem. Soc.* 74: 375–380 (1997)**Cotton Tree Oil***Bombax malabaricum*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	

Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–3.4
16:0	4.7–28.3
9c-16:1	0–7.2
18:0	7.3–9.2
9c-18:1	44.3–49.9
9c,12c-18:2	14.5–26.6
22:0	0–3.7

References**Cotton Wax***Gossypium spp.*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/4) 0.96
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	70.6
Titer °C	
% Unsaponifiable	
Melting Point °C	68–71

Fatty Acid Composition (%)**References****Cottonseed Oil***Gossypium spp.*

Specific Gravity (SG)	
15.5/15.5°C	

25/25°C	0.915–0.921
Other SG (20/20)	0.918–0.926
Refractive Index (RI)	
25°C	
40°C	1.458–1.466
Other RI	
Iodine Value	96–121
Saponification Value	189–199
Titer °C	
% Unsaponifiable	0–2
Melting Point °C	–2
Solidification Point °C	–6 to 4

Fatty Acid Composition (%)

12:0	0–0.2
14:0	0.3–1.3
16:0	18.1–38.7
16:1	0–0.7
9c-16:1	0–1.4
17:0	0–0.1
8a,10t-17:2	0–0.1
18:0	2.1–4.7
Total 18:1	14.2–21.7
9c-18:1	13.9–30
Undefined 18:2	53.3–61.6
9c,12c-18:2	31.9–61.6
Undefined 18:3	0–0.4
20:0	0–1
Total 20:1	0–0.1
11c-20:1	0–2.3
20:2	0–0.1
22:0	0–0.8
Unidentified 22:1	0–0.3
13c-22:1	0–1.2
22:2	0–0.1
24:0	0–0.1

Sterol Composition, %

Cholesterol	0.7–2.3
Brassicasterol	0.1–0.9
Campesterol	6.4–14.5
Stigmasterol	2.1–6.8
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	76.0–87.1
D5-Avenasterol	1.8–7.3
D7-Stigmasterol	0–1.4
D7-Avenasterol	0.8–3.3
D7-Campesterol	

D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–1.5
% sterols in oil	
Total Sterols, mg/kg	2690–6430

Tocopherol Composition, mg/kg

α -Tocopherol	136–674
β -Tocopherol	0–30
γ -Tocopherol	138–750
δ -Tocopherol	0–20
Total, mg/kg	390–1430

Tocotrienols Composition, mg/kg

α -Tocotrienol	0–30
β -Tocotrienol	
γ -Tocotrienol	0–30
δ -Tocotrienol	
Total Tocotrienols, mg/kg	

References *Codex* 1997/17

- J. Am Oil Chem. Soc.* 74: 375–380 (1997)
J. Am Oil Chem. Soc. 68: 518–519 (1991)

Couepia Longipendula Oil*Couepia longipendula***Specific Gravity (SG)**

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****Melting Point °C****Fatty Acid Composition (%)**

16:0	25.2
9c-16:1	0.9
18:0	6.2

9c-18:1	26.5
11c-18:1	0.4
9c,12c-18:2	7.4
9c,11t,13t-18:3	11.3–21.8
20:0	0.3

References *J. Am Oil Chem. Soc.* 68: 440 (1991)

Cowpea Oil

Vigna unguiculata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 25–37

18:0 5.9–8.0

9c-18:1 7.3–16.4

9c,12c-18:2 18.5–25.5

Undefined 18:3 20–29.7

References *J. Sci. Food Agric.* 78: 1 (1998)

Crambe Oil

Crambe abyssinica

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.908–0.910

Other SG

Refractive Index (RI)

25°C 1.4700

40°C 1.4648–1.466

Other RI

Iodine Value 87–113

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.1

16:0 1.6–9.7

9c-16:1 0–0.9

18:0 0.5–1

Total 18:1 12–15

9c-18:1 16.7–18.7

9c,12c-18:2 6.9–12.7

Undefined 18:3 4–7

20:0 1–2.7

Total 20:1 3–4

11c-20:1 2–2.9

22:0 0.1–2.7

13c-22:1 47.4–60

22:2 1

15c-24:1 1

References *J. Am Oil Chem. Soc.* 43: 330 (1966)

Ind. Crop. Prod. 1: 57 (1992)

Crepis Alpina Seed Oil

Crepis spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 1

16:0 3.1–5.6

18:0 1–2.9

Total 18:1 2

9c-18:1 3.7–19

Undefined 18:2 14

9c,12c-18:2	15–34
9c,12t-18:2	2
Other	Crepenynic, 0.1–74

References *J. Am Oil Chem. Soc.* 70: 817 (1993)
J. Liq. Chromatogr. 18: 4165 (1995)

Cress Oil

Lepidum sativum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.472
Iodine Value	108–134
Saponification Value	178–187
Titer °C	
% Unsaponifiable	1.2
Melting Point °C	
Solidification Point °C	–16 to –6

Fatty Acid Composition (%)

References

Crotalaria Juncea Oil

Crotalaria juncea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

8:0	6
10:0	6
12:0	6
13:0	6
14:0	0.197–6
15:0	4
16:0	18.019–19
9c-16:1	4
17:0	1
18:0	5–10.154
Total 18:1	12
9c-18:1	6.689
9c,12c-18:2	6–62.36
Undefined 18:3	0.7–3
20:0	0.7–1.199
22:0	1.369–7
24:0	5
Other	2.5

References *Fat Sci. Technol.* 97: 457 (1995)
J. Med. Plants Res. 5: 984–991 (2011)

Croton Seed Oil

Croton tiglium

Specific Gravity (SG)	
15.5/15.5°C	0.935–0.960
25/25°C	
Other SG	(20/4) 0.935–0.950
Refractive Index (RI)	
25°C	
40°C	1.470–1.473
Other RI	
Iodine Value	102–118
Saponification Value	192–220
Titer °C	
% Unsaponifiable	0.3–5
Melting Point °C	
Solidification Point °C	–16 to –7

Fatty Acid Composition (%)

16:0	1
18:0	0.5
Total 18:1	56
9c-18:1	ca. 37
9c,12c-18:2	19–29

References**Cryptolepis Buchnani Oil***Cryptolepis buchnani*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 53.28

Saponification Value 190.44

Titer °C

% Unsaponifiable 1.7

Melting Point °C

Fatty Acid Composition (%)

16:0 30.9

18:0 6.5

9c-18:1 5.5

Undefined 18:3 7.4

22:0 0.8

24:0 3

Other Keto acid, 45.9

References *J. Am Oil Chem. Soc.* 69: 188
(1992)**Cryptostegia Grandiflora
Seed Oil***Cryptostegia grandiflora*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 114

Saponification Value 280

Titer °C

% Unsaponifiable 1

Melting Point °C

Fatty Acid Composition (%)

16:0 5.9–6

18:0 4–4.1

Total 18:1 52

9c-18:1 52.3

9c,12c-18:2 34–34.4

Undefined 18:3 1.8–2

20:0 0.6

22:0 0.9

References *Fette Seifen Anstrichm.* 86: 167
(1984)**Cucumeropsis Edulis Seed Oil***Cucumeropsis edulis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.9080

Other SG

Refractive Index (RI)

25°C 1.4622

40°C

Other RI

Iodine Value 95

Saponification Value 186

Titer °C

% Unsaponifiable 1

Melting Point °C

Fatty Acid Composition (%)

16:0 15–15.2

18:0 9–10.6

9c-18:1 21

9c,12c-18:2 12–53.2

Undefined 18:3 62

20:0 0.1

References *Riv. Ital. Sost. Grasse* 75: 191
(1998)**Cucumeropsis Manni Seed Oil***Cucumeropsis manni*

Specific Gravity (SG)

15.5/15.5°C

25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	92
Saponification Value	198
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	16.2–19.4
18:0	10.9–12.3
9c-18:1	0–12.9
9c,12c-18:2	50–58.5
Undefined 18:3	0–20

References *Riv. Ital. Sost. Grasse* 67: 259 (1990)

Cucumis Sativus Seed Oil*Cucumis sativus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.07
16:0	13.65
9c-16:1	0.11
18:0	10.41
9c-18:1	18.01
7c-18:1	0.61
9c,12c-18:2	54.32
9c,12c,15c-18:3	0.37
20:0	0.37

11c-20:1	0.07
22:0	0.06
22:2	0.07
24:0	0.16

Tocopherol Composition, mg/kg

α-Tocopherol	4
β-Tocopherol	4
γ-Tocopherol	75
δ-Tocopherol	913
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	73
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am. Oil Chem. Soc.* 80: 1013–1020 (2003)

Cucurbita Pepo Seed Oil*Cucurbita pepo*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.08
16:0	17.79
9c-16:1	0.06
18:0	7.98
9c-18:1	15.46
7c-18:1	0.50
9c,12c-18:2	56.19
9c,12c,15c-18:3	0.23
20:0	0.36

11c-20:1	0.09
22:0.....	0.10

References**Cumin Seed Oil***Cuminum cyminum*

Specific Gravity (SG)	
15.5/15.5°C.....	0.9256
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	92
Saponification Value	179
Titer °C	
% Unsaponifiable	2.06
Melting Point °C.....	-1
Solidification Point °C	-4

Fatty Acid Composition (%)

16:0.....	3.1
18:0.....	1
9c-18:1	15.4
6c-18:1	52.2
9c,12c-18:2.....	27.9
Other	0.3

References**Cupania Anacardioides Seed Oil***Cupania anacardioides*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	

Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0.....	11.7–12
16:1.....	8
9c-16:1	8.2
18:0.....	6–6.2
Total 18:1	10
9c-18:1	9.6
Undefined 18:2.....	16
9c,12c-18:2.....	15.6
20:0.....	2
Total 20:1	46
11c-20:1	46

References**Cuphea Seed Oil (High Capric)***Heterodon koehneana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

8:0.....	0.1
10:0.....	84–92
12:0.....	1.5–3
14:0.....	0.6–2
16:0.....	1.3–3
18:0.....	0.3
Total 18:1	1–4
9c,12c-18:2.....	2–4
Undefined 18:3.....	0.1–0.2
20:0.....	0–0.1

References *Crit. Rev. Food Sci. Nutr.* 28: 139 (1989)
J. Am Oil Chem. Soc. 65: 139 (1988)
Lipids 2: 345 (1967)

Cuphea Seed Oil (High Caprylic)

Diploptychia painteri

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0 65–78

10:0 19–24

12:0 0.1–0.2

14:0 0.4

16:0 0.6–3.0

18:0 0.1–0.4

Total 18:1 0.5–3

9c,12c-18:2 1–4

Undefined 18:3 0.1–0.2

References *Lipids* 2: 345 (1967)
Crit. Rev. Food Sci. Nutr. 28: 139 (1989)

Cuphea Seed Oil (High Lauric)

Cuphea wrightii

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0 31–39

12:0 49–57

14:0 3–4

16:0 1–1.6

18:0 0.3

Total 18:1 1–2.7

9c-18:1 2.3

9c,12c-18:2 3.6–4.9

Undefined 18:3 0.1

20:0 0.1

References *J. Am Oil Chem. Soc.* 65: 139 (1988)
Crit. Rev. Food Sci. Nutr. 28: 139 (1989)

Cuphea Seed Oil (High Lauric)

Heteranthus epilobiifolia

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0 0.3

12:0 32–39

14:0 49–55

16:0 3–5

18:0 1

Total 18:1 3

9c,12c-18:2 5

Undefined 18:3	0.1
20:0	0.1

References *Crit. Rev. Food Sci. Nutr.* 28: 139 (1989)

Cuphea Seed Oil (High Linoleic)

Cuphea fruticosa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0–3

16:0 16.8–18

18:0 0.4–2

Total 18:1 12–14

9c-18:1 12.8

9c,12c-18:2 62–67.2

Undefined 18:3 0–0.5

20:0 0–2

Total 20:1 0–1

11c-20:1 0.7

22:0 0–1

References *J. Am Oil Chem. Soc.* 62: 81 (1985)

Crit. Rev. Food Sci. Nutr. 28: 139 (1989)

Cuphea Viscosissima Seed Oil

Cuphea viscosissima

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

6:0 0.7–1.1

8:0 9.1–21.2

10:0 65.9–75.5

12:0 2.5–3.6

14:0 0.8–1.3

16:0 1.4–3.1

18:0 0.1–0.3

Total 18:1 1.4–2.6

9c-18:1 1.9

Undefined 18:2 3–4

9c,12c-18:2 4.7

Undefined 18:3 0.2–0.5

20:0 0.3

11c-20:1 0.4

References *J. Am Oil Chem. Soc.* 68: 515–517 (1991)

Cupu Assu Kernel Oil

Theobroma grandiflora

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.4563

Other RI

Iodine Value 44–45

Saponification Value 189

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.8

16:0	6–12
18:0	22–35
Total 18:1	39–47
9c,12c-18:2	3–9
Undefined 18:3	0–1
20:0	10–12

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	4
Stigmasterol	9
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	80
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	7
% sterols in oil	
Total Sterols, mg/kg	245

Tocopherol Composition, mg/kg

α -Tocopherol	
β -Tocopherol	
γ -Tocopherol	122
δ -Tocopherol	6
Total, mg/kg	128

References *J. Am. Dietetic Assn.* 68: 224 (1976)

J. Am Oil Chem. Soc. 71: 845 (1994)

Currant Seed Oil

Ribes spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.474–1.477

Iodine Value 160–176

Saponification Value 195–197

Titer °C

% Unsaponifiable 1.8–2.3

Melting Point °C

Fatty Acid Composition (%)

16:0	5.3–6.8
9c-16:1	0–0.2
18:0	1.3–2
9c-18:1	9.5–22.3
9c,12c-18:2	32.5–49
Undefined 18:3	12.4–28.9
6c,9c,12c-18:3	1.9–19
11c-20:1	0.1–0.8

References**Daniellia Ogea Seed Oil**

Daniellia ogea

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	7.5
9c-16:1	5
16:2	1.2
18:0	1.4
9c-18:1	6.6
11c-18:1	0.2
9c,12c-18:2	27.7
6c,9c,12c-18:3	0.3
9c,12c,15c-18:3	0.7
20:0	0.6

Total 20:1	0.8
22:0	3.3
24:0	9.2

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Date Palm Oil

Phoenix dactylifera

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0	0.3
12:0	21.8
14:0	10.9
16:0	9.6
18:0	1.5
9c-18:1	42.3
9c,12c-18:2	13.7

References

Delavaya Toxocarpa Seed Oil

Delavaya toxocarpa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.01
16:0	4.20
9c-16:1	0.05
18:0	2.12
9c-18:1	39.10
7c-18:1	0.54
9c,12c-18:2	2.72
9c,12c,15c-18:3	0.62
20:0	9.65
11c-20:1	37.49
22:0	0.78
13c-22:1	0.91
24:0	0.16

Tocopherol Composition, mg/kg

α-Tocopherol	2
β-Tocopherol	
γ-Tocopherol	1
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	29
β-Tocotrienol	2
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Delonix Elata Seed Oil

Delonix elata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.4
16:0	18.8–23.4
18:0	13.7–14.6
Total 18:1	13.1
9c-18:1	12.9–18.2
Undefined 18:2	46.9
9c,12c-18:2	45–48.7
20:0	0–1.8

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)

Delphinium Ajacis Oil*Delphinium ajacis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	1.9
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.04
16:0	3.3–4.44
9c-16:1	0.08–0.5
18:0	0.9–2.17
9c-18:1	36–59.9
7c-18:1	0.71
11c-18:1	0–1.7
9c,12c-18:2	14.2–47.6
Undefined 18:3	1.4–1.9
9c,12c,15c-18:3	1.68
20:0	0–0.22
11c-20:1	7.1–26.92

22:0	0.22
13c-22:1	0.05
22:2	0.12
24:0	0.24

Tocopherol Composition, mg/kg

α-Tocopherol	120
β-Tocopherol	78
γ-Tocopherol	83
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	566
β-Tocotrienol	153
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Desert Date Oil*Balanites aegyptiaca*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Iodine Value
Saponification Value
Titer °C

% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	16.4
18:0	11.3
9c-18:1	33.7
9c,12c-18:2	38.6

References

Dhupa Butter

Veteria indica

Specific Gravity (SG)
 15.5/15.5°C 0.894–0.900
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C 1.456–1.459
 Other RI

Iodine Value 36–43

Saponification Value 187–192

Titer °C

% Unsaponifiable 0.6–2.5

Melting Point °C 36.5–42

Solidification Point °C 30.5

Fatty Acid Composition (%)

References

Dhupa Fat (Malabar Tallow)

Valeria indica

Specific Gravity (SG)
 15.5/15.5°C 0.894–0.900
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C 1.456–1.459
 Other RI (20) 1.456–1.459

Iodine Value 36–43

Saponification Value 187–192

Titer °C

% Unsaponifiable 0.5–2.5

Melting Point °C 36.5–42

Solidification Point °C 30.5

Fatty Acid Composition (%)

16:0 9–15

18:0 38–45

Total 18:1 38–50

9c-18:1 42–48

9c,12c-18:2 0–2

20:0 0.5–5.0

References *Indian Standard IS: 8879–8978*
 (1979)

Dill Seed Oil

Anethum graveolens

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI (35) 1.480

Iodine Value 119

Saponification Value 176

Titer °C

% Unsaponifiable 1.1

Melting Point °C

Solidification Point °C –2

Fatty Acid Composition (%)

12:0 6.05

14:0 0.07

16:0 3.3–4

9c-16:1 0.21

18:0 0.5–0.87

9c-18:1 7.79–8.6

6c-18:1 78–81.6

9c,12c-18:2 5.51–8.4

Undefined 18:3 0–0.1

9c,12c,15c-18:3 0.34

20:0 0.12

11c-20:1 0.03

22:0 0.01

13c-22:1 0.06

24:0 0.04

Tocopherol Composition, mg/kg

α-Tocopherol 96

β-Tocopherol

γ-Tocopherol 29

δ-Tocopherol 30

Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol 102

β-Tocotrienol

γ-Tocotrienol 69

δ -Tocotrienol 29
Total Tocotrienols, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Dimocarpus Longan Seed Oil

Dimocarpus longan

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.26
16:0 12.15
9c-16:1 0.18
18:0 8.04
7c-18:1 0.66
11c-18:1 36.87
9c,12c-18:2 8.4
9c,12c,15c-18:3 2.65
20:0 4.27
11c-20:1 1.90
22:0 2.74
24:0 2.41

Tocopherol Composition, mg/kg

α -Tocopherol 139

β -Tocopherol 2

γ -Tocopherol 92

δ -Tocopherol 3

Total, mg/kg

Tocotrienols Composition, mg/kg

α -Tocotrienol 2

β -Tocotrienol

γ -Tocotrienol

δ -Tocotrienol

Total Tocotrienols, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Diospyros Mespiliformis Seed Oil

Diospyros mespiliformis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 11.8
9c-16:1 0.4
16:2 0.5
18:0 3.2
9c-18:1 7.7
11c-18:1 0.5
9c,12c-18:2 8.0
9c,12c,15c-18:3 0.6
20:0 0.6
22:0 0.5
4c,7c,10c,13c,16c,19c-22:6 4.7
24:0 0.6

References *J. Am Oil Chem. Soc.* 75: 1031
(1998)

Diploptychea Painteri Seed Oil

Cuphea lythracea

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0 65

10:0 24

12:0 0.2

14:0 0.4

16:0 3

18:0 0.4

Total 18:1 3

Undefined 18:2 4

References *Crit. Rev. Food Sci. Nutr.* 28:

139 (1989)

Dogwood Oil*Cornus sanguinea*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.467–1.468

40°C

Other RI

Iodine Value 100–101

Saponification Value 192–193

Titer °C

% Unsaponifiable 0.7

Melting Point °C

Solidification Point °C –15 to –12

Fatty Acid Composition (%)

14:0 0–0.1

16:0 14.1–23.9

9c-16:1 0–1.5

18:0 1.4–1.8

9c-18:1 34.6–37.4

9c,12c-18:2 13.4–47.2

Undefined 18:3 0.1–2.1

20:0 0–0.3

References**Domba Fat***Calophyllum inophyllum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 82–98

Saponification Value 192–201

Titer °C

% Unsaponifiable

Melting Point °C 8

Fatty Acid Composition (%)

14:0 0.02

16:0 12–20.8

9c-16:1 0–1

18:0 8–20

Total 18:1 36–53

9c-18:1 30.1–60.2

7c-18:1 0.86

Undefined 18:2 16–29

9c,12c-18:2 11–38.4

9c,12c,15c-18:3 0.17

20:0 0–0.89

9c-20:1 0.25

11c-20:1 0–0.5

22:0 0.26

13c-22:1 0.06

24:0 0.85

Tocopherol Composition, mg/kg

 α -Tocopherol 58 β -Tocopherol 36 γ -Tocopherol 42 δ -Tocopherol 42

Total, mg/kg

Tocotrienols Composition, mg/kg

 α -Tocotrienol 49

β -Tocotrienol	
γ -Tocotrienol	57
δ -Tocotrienol	94
Total Tocotrienols, mg/kg	

References *inform 13*: 151 (2002)

J. Am Oil Chem. Soc. 80: 1013–1020
(2003)

Dukudu Seed Oil*Celastrus paniculatus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9586
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	104
Saponification Value	239–258
Titer °C	
% Unsaponifiable	3
Melting Point °C	

Fatty Acid Composition (%)

12:0	2.2
14:0	1.7
16:0	20–32.8
18:0	4–7.3
Total 18:1	15
9c-18:1	20.2
9c,12c-18:2	16.3–39
Undefined 18:3	12–19.5
Other	Benzoic, 2

References *Lipids* 9: 928 (1974)**Dunchi Fiber Seed Oil***Sesbania bispinosa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	

25°C
40°C
Other RI

Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	17.2
18:0	2.1
Total 18:1	55.5
Undefined 18:2	0.3
20:0	15.3

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)**Eggplant Seed Oil***Solanum melongena*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.12
16:0	9.2–9.49
9c-16:1	0.1–0.22
18:0	2.9–3.22
9c-18:1	14.1–14.53
7c-18:1	1
9c,12c-18:2	68.95–72.4
Undefined 18:3	0–1
9c,12c,15c-18:3	1.49
20:0	0.23
11c-20:1	0.08
22:0	0.12

22:2.....	0.03
24:0.....	0.15

Tocopherol Composition, mg/kg

α-Tocopherol	56
β-Tocopherol.....	35
γ-Tocopherol.....	372
δ-Tocopherol.....	39
Total, mg/kg	

References

Egusi Seed Oil*Colocynthis citrullus*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0.....	0.02
16:0.....	10
9c-16:1	0.1
18:0.....	10
Total 18:1	16
9c,12c-18:2.....	62
Undefined 18:3	0.4

References *J. Food Sci.* 47: 829 (1982)**Egyptian Riverhemp Seed Oil***Sesbania sesban*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0.....	0–0.3
15:0.....	0–0.1
16:0.....	14.6–16.3
9c-16:1	0–0.1
17:0.....	0–0.3
18:0.....	4.2–6.3
Total 18:1	13.5
9c-18:1	17.8
Undefined 18:2.....	60.7
9c,12c-18:2.....	53.4
Undefined 18:3.....	6.1
20:0.....	0.6–3.9
11c-20:1	0–0.4
22:0.....	0–0.2

References *Int. J Food Sci. Nutr.* 52: 337–341 (2001)**Elemi Oil***Canarium commune*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0.....	30.5
18:0.....	10.2

9c-18:1	39.9
9c,12c-18:2	18.7
Undefined 18:3	0.7

References**Elm Seed Oil***Ulmus spp.*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4554
40°C	
Other RI	
Iodine Value	16–32
Saponification Value	273–280
Titer °C	
% Unsaponifiable	1–1.4
Melting Point °C	4.5–5.7
Solidification Point °C	–3.5

Fatty Acid Composition (%)**References****Elm Seed Oil***Ulmus americana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9305
Other SG	
Refractive Index (RI)	
25°C	1.4535–1.4574
40°C	
Other RI	
Iodine Value	24–25
Saponification Value	273–275
Titer °C	
% Unsaponifiable	1–1.5
Melting Point °C	

Fatty Acid Composition (%)

8:0	10
10:0	70

12:0	4
14:0	2
16:0	4
18:0	1
Total 18:1	5
9c,12c-18:2	4
Undefined 18:3	1
Total 20:1	0.1

References *Lipids* 2: 345 (1967)**Entandrophragma Angolense Seed Oil***Entandrophragma angolense*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	3.8–6.4
9c-16:1	10.8–16.5
16:2	2.8
17:0	5.3
18:0	10.4–15.4
9c-18:1	1.6–2.6
11c-18:1	31.7–39.4
9c,12c-18:2	11.1–12.1
Undefined 18:3	0–0.1
9c,12c,15c-18:3	0.2
20:0	1.18–1.5
22:0	0.3

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Enterolobium Cyclocarpium Seed Oil

Enterolobium cyclocarpium

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	5.5
9c-16:1	0.5
16:2	0.8
18:0	4.4
9c-18:1	10.5
11c-18:1	1.6
9c,12c-18:2	18.1
6c,9c,12c-18:3	0.2
9c,12c,15c-18:3	5.5
20:0	1.4
Total 20:1	0.3
22:0	2.4
24:0	1.1

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Ephedra Gerardiana

Ephedra gerardiana

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0	0.1
12:0	tr
14:0	0.1
9c-14:1	0.1
15:0	0.1
16:0	6.6
9c-16:1	0.6
7c-16:1	0.1
17:0	0.1
18:0	2.5
9c-18:1	17.1
11c-18:1	11.2
5,11-18:2	1.7
5,9-18:2	0.4
9c,12c-18:2	8.7
9c,12c,15c-18:3	10.5
5,9c,12c,15c-18:4	0.5
20:0	0.4
11c-20:1	0.5
13c-20:1	0.5
20:2	1.5
Unidentified 20:3	3.3
5,11c,14c-20:3	7.5
5c,11c,14c,17-20:4	19.2
22:0	0.2
Unidentified 22:1	tr
24:0	0.1
26:0	0.1

References *J. Am Oil Chem. Soc.* 75: 1761–1765 (1998)

Erythrophleum Fordii Oil

Erythrophleum fordii

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.03
16:0	11.18
9c-16:1	5.07
18:0	6.44
9c-18:1	20.60
7c-18:1	14.30
9c,12c-18:2	37
9c,12c,15c-18:3	0.23
20:0	1.39
11c-20:1	0.13
22:0	0.34
24:0	0.33

Tocopherol Composition, mg/kg

α-Tocopherol	599
β-Tocopherol	45
γ-Tocopherol	159
δ-Tocopherol	32
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	45
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
 1013–1020 (2003)

Esparto Wax*Stipa tenacissima*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C 0.988
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value 69
 Titer °C
 % Unsaponifiable
 Melting Point °C 78

Fatty Acid Composition (%)**References****Euphorbia Lagascae Seed Oil***Euphorbia lagascae*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C 0.955
 Other SG
 Refractive Index (RI)
 25°C 1.4731
 40°C 1.4680
 Other RI
 Iodine Value 102
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0–1
16:0	3.9–4
18:0	1.4–2
Total 18:1	19
9c-18:1	18.6–20
9c,12c-18:2	8.2–12
Undefined 18:3	0.2–0.5
Total 20:1	1
11c-20:1	0.3–0.8
Other	Vernolic, 57–64

References *Ind. Crop. Prod.* 1: 135 (1992)

European Columbine*Aquilegia vulgaris*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0 0–0.1

12:0 0–0.1

14:0 0–0.1

16:0 7.3–8

9c-16:1 0–0.3

18:0 2–2.8

9c-18:1 5.1–6

11c-18:1 0–0.4

9c,12c-18:2 24–25.3

Undefined 18:3 0.1–0.2

6c,9c,12c,15c-18:4 0–0.2

20:0 0–0.1

11c-20:1 0–0.1

References**Evening Primrose Oil***Oenothera biennis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.4782

40°C

Other RI (20) 1.4791

Iodine Value 147–155

Saponification Value 187–198

Titer °C

% Unsaponifiable 1.5–2.5

Melting Point °C

Solidification Point °C –10

Fatty Acid Composition (%)

12:0 0.03

14:0 0.07

16:0 5–10

9c-16:1 0–0.1

18:0 1.5–3.5

Total 18:1 5–12

9c-18:1 8.6–25

9c,12c-18:2 65–80

Undefined 18:3 0–0.2

6c,9c,12c-18:3 8–14

9c,12c,15c-18:3 0.2

20:0 0.2–0.3

Total 20:1 0.2

11c-20:1 0–0.2

22:0 0.1

24:0 0.1

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol 8–9

Stigmasterol

Stigmasta-8,22-dien-3 β -ol5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

 β -Sitosterol 87–90

D5-Avenasterol 4

D7-Stigmasterol 2

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

Tocopherol Composition, mg/kg α -Tocopherol 76–356 β -Tocopherol γ -Tocopherol 187–358 δ -Tocopherol 0–19

Total, mg/kg 263–661

References *J. Am Oil Chem. Soc.* 61: 540

(1984)

Food Res. Intl. 26: 181 (1993)*Rev. Franc. Corps Gras* 39: 339 (1992)

J. Am Oil Chem. Soc. 60: 1858 (1993)

Riv. Ital. Sost. Grasse 53: 25 (1976)

Ind. Crop.Prod. 22: 169–174 (2005)

Fennel Seed Oil

Foeniculum officinale/F. vulgare

Specific Gravity (SG)

15.5/15.5°C..... 0.928–0.932

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (35) 1.480–1.4795

Iodine Value 99

Saponification Value 181

Titer °C

% Unsaponifiable 3–4

Melting Point °C

Solidification Point °C –2

Fatty Acid Composition (%)

16:0 4–6.9

9c-16:1 0.4–0.5

18:0 0.4–1.4

9c-18:1 2.8–22

6c-18:1 60

11c-18:1 0.4–0.7

9c,12c-18:2 10.4–14.4

Undefined 18:3 0.1–0.6

20:0 0.2–1.1

11c-20:1 0.1–0.4

22:0 0–0.1

References

Fenugreek Seed Oil

Trigonella foenum-graecum

Specific Gravity (SG)

15.5/15.5°C..... 0.9304

25/25°C..... 0.910–0.922

Other SG

Refractive Index (RI)

25°C 1.4741–1.4789

40°C

Other RI

Iodine Value 115–158

Saponification Value 178–185

Titer °C

% Unsaponifiable 3.5–4

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.2

15:0 0–0.2

16:0 8–11.5

17:0 0–0.5

18:0 2.5–5.4

Total 18:1 24–35

9c-18:1 12.5–17

9c,12c-18:2 32–43.3

Undefined 18:3 14–32.2

20:0 1–3.5

11c-20:1 0–1.3

22:0 0.3–1.3

13c-22:1 0–0.6

References

Fig Seed Oil

Ficus carica

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.480

40°C

Other RI

Iodine Value 147

Saponification Value 167–219

Titer °C

% Unsaponifiable

Melting Point °C

Solidification Point °C –16

Fatty Acid Composition (%)

16:0 6–7.2

18:0 2–3

Total 18:1 15–20

9c-18:1 14.9

9c,12c-18:2 30–35

Undefined 18:3 34–45

References *Fette Seifen Anstrichm.* 85: 23 (1983)

Finger Millet Oil

Eleusine coracana

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	21.6–24.7
18:0	0–2.11
Total 18:1	48
9c-18:1	43–49.8
7c-18:1	3.13
9c,12c-18:2	22–24.7
Undefined 18:3	4
9c,12c,15c-18:3	1.29–4.4
20:0	0.42–0.5

References *Cereal Chem.* 71: 355 (1994)
Plant Food Hum. Nutr. 58: 1–10 (2003)

Fir Seed Oil

Abies alba

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI(35) 1.4879
 Iodine Value 118–122
 Saponification Value 190–192
 Titer °C

% Unsaponifiable 3–4
 Melting Point °C
 Solidification Point °C –16 to –15

Fatty Acid Composition (%)

References

Fokienia Hodginsii Oil

Fokienia hodginsii

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	6.07
16:1	0.05
17:0	0.08
18:0	3.09
9c-18:1	10.55
11c-18:1	0.23
5,9–18:2	0.19
9c,12a-18:2	33.18
5c,9c,12c-18:3	0.85
5,9c,12c,15c-18:4	2.82
20:2	0.27
5,11c,14c-20:3	0.28
5c,11c,14c,17–20:4	0.8

References *J. Am Oil Chem. Soc.* 76: 535–536 (1999)

Foxtail Millet Oil

Setaria italica

Specific Gravity (SG)
 15.5/15.5°C

25/25°C	0.9156
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4710
Other RI	
Iodine Value	105–132
Saponification Value	160–193
Titer °C	
% Unsaponifiable	2–3
Melting Point °C	

Fatty Acid Composition (%)

16:0	9
18:0	1
Total 18:1	20
9c,12c-18:2	66
Undefined 18:3	2.5
9c,12c,15c-18:3	40.07
20:0	0.15
11c-20:1	0.18
20:2	0.06
5c,8c,11c,14c-20:4	0.2
22:0	0.5
Unidentified 22:1	0.1

References *Cereal Chem.* 71: 355 (1994)

Fucus Serratus Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	19–30
16:1	0–10
Total 18:1	11–34
Undefined 18:2	8–14

Undefined 18:3	5–10
18:4	4–11
20:4	13–16
20:5	6–16
Total lipids (dry wt basis)	0.4–2

References *Phytochemistry* 43: 49 (1996)

Fulwa Butter (Indian Butter Tree)*Diploknema butyracea*

Specific Gravity (SG)	
15.5/15.5°C	0.9245
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4552–1.4659
Other RI	
Iodine Value	38–43
Saponification Value	170–200
Titer °C	
% Unsaponifiable	0.5–5.3
Melting Point °C	39–51
Solidification Point °C	27

Fatty Acid Composition (%)

16:0	56.6
18:0	3.6
9c-18:1	36
9c,12c-18:2	3.8

References

Fungal Oil*Mortierella alpina*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	8–14
18:0	6–13
Total 18:1	13–15
Undefined 18:2	7–20
Unidentified 20:3	2–3
20:4	29–46
22:0	1–2
24:0	1–5

References *J. Am Oil Chem. Soc.* 75: 507
(1998)

Gamboge Butter (Kernel Fat)*Garcinia morella*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 48–55

Saponification Value 191

Titer °C

% Unsaponifiable

Melting Point °C 29–37

Fatty Acid Composition (%)

14:0	0–0.3
16:0	0.7–7.2
18:0	42–46.4
Total 18:1	43–50
9c-18:1	49.5
9c,12c-18:2	0.9–6
20:0	0.3–2.5

References**Garlic Mustard Seed Oil***Alliaria petiolata*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	2.7–5.9
9c-18:1	5.4–13.5
9c,12c-18:2	21.2–32.8
Undefined 18:3	4.4–12.3
11c-20:1	2.9–9.9
13c-22:1	29.5–50.1
15c-24:1	2.2–8.9

References**Garlic Oil***Allium sativum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (30) 1.4525

Iodine Value 96.5

Saponification Value 198

Titer °C

% Unsaponifiable

Melting Point °C

Solidification Point °C 43–44

Fatty Acid Composition (%)

12:0	0.6
14:0	0.5
16:0	26
18:0	3
Total 18:1	13
9c,12c-18:2	46
Undefined 18:3	1
20:0	4.5

References *Bangladesh J. Sci. Ind. Res.* 26: 41 (1993)

Giant Fennel Oil

Ferula communis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	4.3–7.7
18:0	0.9–1.1
9c-18:1	4.4–8.8
6c-18:1	70.8–78.1
11c-18:1	0–0.7
9c,12c-18:2	10.5–11.8
Undefined 18:3	0.2–0.9
20:0	0–0.2

References

Gliricidia Maculata Seed Oil

Gliricidia maculata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	16.3
18:0	17.5
Total 18:1	19.8
Undefined 18:2	42.8
20:0	3.2

References *Int. J Food Sci. Nutr.* 52: 337–341 (2001)

Glyricidia Sepium Seed Oil

Glyricidia sepium

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	15.1
9c-16:1	0.4
16:2	2
18:0	16.2
9c-18:1	24
11c-18:1	0.7
9c,12c-18:2	28.5
6c,9c,12c-18:3	0.3
9c,12c,15c-18:3	1.4
20:0	3.2

Total 20:1	0.2
22:0	1.7
24:0	1.3

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Gnetum Oil

Gnetum spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.3
16:0	8.11–16.5
9c-16:1	0.14–0.2
18:0	3.3–54.7
9c-18:1	16.2–30.3
11c-18:1	16.36
9c,12c-18:2	3.3–15
Undefined 18:3	0–3
9c,12c,15c-18:3	3.68
20:0	1.85
11c-20:1	0.57
22:0	1.18
13c-22:1	0.39
24:0	0.44

Tocopherol Composition, mg/kg

α-Tocopherol

β-Tocopherol

γ-Tocopherol

δ-Tocopherol

Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol

β-Tocotrienol

γ-Tocotrienol

δ-Tocotrienol

Total Tocotrienols, mg/kg

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Gomphera Globosa Seed Oil

Gomphera globosa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	1
16:0	19
18:0	10
Total 18:1	46
9c,12c-18:2	24
20:0	1
22:0	0.4

References *Fette Seifen Anstrichm.* 86: 165 (1984)

Gooseberry Seed Oil

Ribes grossularia

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI	
Iodine Value	171
Saponification Value	188
Titer °C	
% Unsaponifiable	1.4
Melting Point °C	

Fatty Acid Composition (%)

16:0	7–8
18:0	1
Total 18:1	15–18
9c,12c-18:2	39–41
6c,9c,12c-18:3	10–12
9c,12c,15c-18:3	19–20
6c,9c,12c,15c-18:4	4–5
20:0	0–2
Total 20:1	0–2
22:0	0–2

References *J. Am Oil Chem. Soc.* 65: 755 (1988)

Grape Seed Oil*Vitis vinifera*

Specific Gravity (SG)	
15.5/15.5°C	0.910–0.956
25/25°C	
Other SG	(20/20) 0.923–0.926
Refractive Index (RI)	
25°C	1.471–1.476
40°C	1.473–1.477
Other RI	
Iodine Value	94–160
Saponification Value	171–206
Titer °C	
% Unsaponifiable	0–2
Melting Point °C	–10
Solidification Point °C	–24 to –10

Fatty Acid Composition (%)

12:0	0–0.5
14:0	0–0.3
16:0	2–11
9c-16:1	0–1.2
18:0	2–6.8
Total 18:1	12–28
9c-18:1	12.7–35
9c,12c-18:2	40–78

Undefined 18:3	0–0.4
6c,9c,12c-18:3	0–1
20:0	0–1
22:0	0–0.3
24:0	0–0.4

Sterol Composition, %

Cholesterol	0–0.5
Brassicasterol	0–0.2
Campesterol	9–14
Stigmasterol	9–17
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	
D5-Avenasterol	1–3
D7-Stigmasterol	1–3
D7-Avenasterol	0–1
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	Sitostanol, 64–70;
	D5,24-Stigmastadienol, 1
% sterols in oil	
Total Sterols, mg/kg	5800

Tocopherol Composition, mg/kg

α-Tocopherol	16–38
β-Tocopherol	0–89
γ-Tocopherol	0–73
δ-Tocopherol	0–4
Total, mg/kg	16–204

Tocotrienols Composition, mg/kg

α-Tocotrienol	18–107
β-Tocotrienol	
γ-Tocotrienol	115–205
δ-Tocotrienol	0–3
Total Tocotrienols, mg/kg	133–313

References *Codex CX 1993/16*

- Riv. Ital. Sost. Grasse* 65: 227 (1988)
Riv. Ital. Sost. Grasse 73: 287 (1996)
Riv. Ital. Sost. Grasse 70: 601 (1993)
J. Am. Dietetic Assn. 73: 41 (1988)

Grapefruit Seed Oil*Citrus grandis/C. paradisi/**C. maxima*

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.917–0.921

Other SG

Refractive Index (RI)

25°C 1.469–1.470

40°C

Other RI

Iodine Value 92–106

Saponification Value 178–197

Titer °C

% Unsaponifiable 0.3–0.7

Melting Point °C

Fatty Acid Composition (%)

12:0 0.5

14:0 1

16:0 18–29

9c-16:1 0–1

18:0 2–8

Total 18:1 20–28

9c,12c-18:2 36–51

Undefined 18:3 5–6

20:0 0.5–2

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol

Stigmasterol

Stigmasta-8,22-dien-3 β -ol5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

 β -Sitosterol 7

D5-Avenasterol 3

D7-Stigmasterol 90

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

References *J. Am Oil Chem. Soc.* 49: 85

(1972)

Pakistan J. Sci. Ind. Res. 34: 238 (1991)**Green Algae Oil***Ulva fenestrata*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 29.9

16:1 1.9

18:0 1

9c-18:1 2.5

7c-18:1 8.4

9c,12c-18:2 9.8

Undefined 18:3 15.4

18:4 6.2

20:4 1.8

20:5 1.7

References *Phytochemistry* 65: 721–730

(2004)

Green Gram Oil*Vigna radiata*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	24.8
18:0	6
9c-18:1	5.4
9c,12c-18:2	37.1
9c,12c,15c-18:3	21.8
20:0	1.2
22:0	2.2
24:0	1.4

Tocopherol Composition, mg/kg

α-Tocopherol	0.9
β-Tocopherol	0.1
γ-Tocopherol	116.6
δ-Tocopherol	7.8
Total, mg/kg	125.4

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	0.6

References *J. Am Oil Chem. Soc.* 74: 1603 (1997)

Guar Bean Oil*Cyamopsis tetragonoloba*

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C

% Unsaponifiable	2
Melting Point °C	

Fatty Acid Composition (%)

16:0	17.9
18:0	5.8
9c-18:1	29
9c,12c-18:2	47.2

References**Guava Seed Oil***Psidium guajava*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(30/30) 0.9207
Refractive Index (RI)	
25°C	
40°C	1.4772
Other RI	
Iodine Value	134
Saponification Value	196
Titer °C	
% Unsaponifiable	0.5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.1
16:0	6.6
18:0	4.6
Total 18:1	10.8
9c,12c-18:2	76.4
Undefined 18:3	0.1
20:0	0.3
22:0	0.1
24:0	0.1
Other	0.9

References *J. Am Oil Chem. Soc.* 71: 457 (1994)

Hannoa Undulata Seed Oil*Hannoa undulata/**H. simarubacea*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	66
Saponification Value	191
Titer °C	
% Unsaponifiable	0.95–1
Melting Point °C	

Fatty Acid Composition (%)

16:0	7.9–10.6
9c-16:1	8
18:0	20–26.1
Total 18:1	20
9c-18:1	46–61.4
9c,12c-18:2	7.6–61
Undefined 18:3	0.3–7.6
20:0	0.4–4.1
11c-20:1	0–0.5
22:0	0–3
24:0	0–1.2

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	
Stigmasterol	7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	70
D5-Avenasterol	12
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	24-Methylene-cholesterol, 10
% sterols in oil	
Total Sterols, mg/kg	618

Tocopherol Composition, mg/kg	
α -Tocopherol	71
β -Tocopherol	6
γ -Tocopherol	20
δ -Tocopherol	
Total, mg/kg	97

References *Rev. Franc. Corp Gras* 39: 195 (1992)

Hazelnut Oil (Chilean)*Gevuina avellana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	1.9
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0.1–0.4
16:0	1.9–4
9c-16:1	22.7
18:0	0.3–0.8
9c-18:1	37.2–41.1
11c-18:1	6.2
9c,12c-18:2	5.6–12
Undefined 18:3	0–0.1
20:0	0.8–1.5
Total 20:1	9.7
11c-20:1	1.2–10.5
22:0	0.9–2.2
Unidentified 22:1	9.5
13c-22:1	7.8
24:0	0–0.5
15c-24:1	0–0.8

Tocopherol Composition, mg/kg	
α -Tocopherol	0.4
β -Tocopherol	

γ -Tocopherol	0.6
δ -Tocopherol	
Total, mg/kg	
Tocotrienols Composition, mg/kg	
α -Tocotrienol	130
β -Tocotrienol	1.3
γ -Tocotrienol	0.9
δ -Tocotrienol	0.1
Total Tocotrienols, mg/kg	132

References *J. Am Oil Chem. Soc.* 75: 1037 (1998)

Hazelnut Oil (Filbert)

Corylus avellana

Specific Gravity (SG)	
15.5/15.5°C	0.914–0.920
25/25°C	0.908–0.915
Other SG	
Refractive Index (RI)	
25°C	1.469–1.476
40°C	1.456–1.463
Other RI	
Iodine Value	83–90
Saponification Value	188–197
Titer °C	
% Unsaponifiable	0.2–0.3
Melting Point °C	

Fatty Acid Composition (%)

16:0	4.1–7.2
9c-16:1	0.1–0.3
17:0	0–0.2
18:0	1.5–2.4
Total 18:1	71.9–84.0
9c-18:1	82–86.2
11c-18:1	0.9–1.2
9c,12c-18:2	5.7–22.2
Undefined 18:3	0–0.2
20:0	0.1
Total 20:1	0.1–0.3
22:0	0.1
Unidentified 22:1	0.1–0.2
Other	17:1, 0.1

Sterol Composition, %

Cholesterol	0–0.7
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Brassicasterol	
Campesterol	5–6
Stigmasterol	1
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	82–93
D5-Avenasterol	2–8
D7-Stigmasterol	1–3
D7-Avenasterol	2–3
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	1200–2000

Tocopherol Composition, mg/kg

α -Tocopherol	200–409
β -Tocopherol	6–17
γ -Tocopherol	18–150
δ -Tocopherol	1–7
Total, mg/kg	225–583

References *Riv. Ital Sost. Grasse* 68: 411 (1993)

J. Am. Dietetic Assn. 73: 39 (1978)

Food Chem. 50: 245 (1994)

Food Chem. 48: 411 (1993)

J. Food Technol. 13: 355 (1978)

J. Am Oil Chem. Soc. 74: 755 (1997)

Hazelnut Oil (Predominantly Turkey)

Corylus avellana

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG(15/4)	0.913–0.923
Refractive Index (RI)	
25°C	
40°C	1.4612–1.4628
Other RI	
Iodine Value	84–90

Saponification Value	187–192
Titer °C	
% Unsaponifiable	0.5–0.7
Melting Point °C	
Solidification Point °C	–20 to –10

Fatty Acid Composition (%)

14:0	0.2
16:0	3.2
18:0	1.7
9c-18:1	91.9
9c,12c-18:2	3

References**Hempseed Oil***Cannabis sativa*

Specific Gravity (SG)	
15.5/15.5°C	0.925–0.931
25/25°C	0.923–0.925
Other SG	
Refractive Index (RI)	
25°C	1.4767
40°C	1.470–1.473
Other RI	
Iodine Value	143–166
Saponification Value	190–195
Titer °C	
% Unsaponifiable	0.5–1.5
Melting Point °C	
Solidification Point °C	–25 to –15

Fatty Acid Composition (%)

16:0	6–12
18:0	1–3.2
Total 18:1	11–16
9c-18:1	12.6–17
9c,12c-18:2	45–65
Undefined 18:3	14–30
20:0	2

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	17
Stigmasterol	15
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	

D7,25-Stigmastadienol	
β -Sitosterol	44
D5-Avenasterol	2
D7-Stigmasterol	2
D7-Avenasterol	1
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	3720

References *J. Am. Dietetic Assn.* 73: 41 (1978)

K.A. Williams, *Oils, Fats and Fatty Foods*, 4th edn., Elsevier, NY, 1966, pp. 288

Heteranthus Epilobiifolia Seed Oil*Heteranthus epilobiifolia*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

10:0	0.3
12:0	32
14:0	55
16:0	5
18:0	1
Total 18:1	1
Undefined 18:2	5
Undefined 18:3	0.1

20:0 0.1

References *Crit. Rev. Food Sci. Nutr.* 28:
139 (1989)

Hibiscus Cannabinus (Kenaf Seed) Oil

Hibiscus cannabinus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 14–24

9c-16:1 1.6

18:0 3.5–16

Total 18:1 29.2–45.3

9c-18:1 32

9c,12c-18:2 23.4–45.9

Undefined 18:3 0.7

References www.hort.purdue.edu/newcrop/duke_energy/Hibiscus_cannabinus.html
www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=113251

Hibiscus Coatesii

Hibiscus coatesii

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.2

16:0 17.1

16:1 0.7

9c-16:1 0.7

17:0 0.2

18:0 3.5

Total 18:1 9.9

9c-18:1 9.9

Undefined 18:2 62.1

9c,12c-18:2 62.1

Undefined 18:3 0.5

20:0 0.4

References *J. Am Oil Chem. Soc.* 68:
518–519 (1991)

Hibiscus Sabdariffa Oil

Hibiscus sabdariffa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.5

16:0 15–22.6

9c-16:1 0.47

18:0 2.77–5.2

9c-18:1 27.38–39.8

7c-18:1 1.01

9c,12c-18:2	30.1–49
9c,12c,15c-18:3	0.28
20:0	0.39
11c-20:1	0–0.5
22:0	0.33
24:0	0.19

Tocopherol Composition, mg/kg

α-Tocopherol	135
β-Tocopherol	38
γ-Tocopherol	159
δ-Tocopherol	40
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Hickory Nut Oil

Caryaovata ovata

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	9
9c-16:1	0.5
18:0	2
Total 18:1	52
9c,12c-18:2	34
Undefined 18:3	1–2
20:0	0.2

References *J. Food Technol.* 13: 355 (1978)

Hollyhock Oil

Althea rosea

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	28.5
18:0	2.7
Total 18:1	18.6
Undefined 18:2	48.7

References *J. Am Oil Chem. Soc.* 68: 26–28 (1991)

Honey/Thorny Locust Oil

Gleditsia triacanthos

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable 0.5
 Melting Point °C

Fatty Acid Composition (%)

16:0	11.3
18:0	3.7

9c-18:1	13.1
11c-18:1	1
9c,12c-18:2	66.6
Undefined 18:3	1.2
20:0	0.4
11c-20:1	0.2
22:0	0.6

References

Horse Chestnut Oil

Aesculus hippocastanum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.467–1.473

40°C

Other RI

Iodine Value 90–109

Saponification Value 180–194

Titer °C

% Unsaponifiable 1–4

Melting Point °C

Fatty Acid Composition (%)

16:0 4–6

18:0 1–4

Total 18:1 67–72

9c,12c-18:2 21–23

Undefined 18:3 0–2

References

Horsegram Oil

Dolichos biflorus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0 0.5

12:0 0.8

14:0 0.4

16:0 19.6–32.5

17:0 0.8

18:0 0.4–2.4

9c-18:1 3.9–14.9

9c,12c-18:2 13–37.8

Undefined 18:3 16.5

9c,12c,15c-18:3 13.0

20:0 1–5

Total 20:1 0.4

22:0 4.7–7.5

13c-22:1 11.5

22:2 0.8

24:0 2.9–7

Tocopherol Composition, mg/kg

 α -Tocopherol 0.3 β -Tocopherol γ -Tocopherol 66.3 δ -Tocopherol 6.9

Total, mg/kg 73.5 (original material)

References *J. Am Oil Chem. Soc.* 74: 1603 (1997)

Illipe Butter

Madhuca latiflora/

M. longiflora/M. indica/Bassia latiflora/B. longiflora

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG... (100/15) 0.856–0.870, (15/4)

0.9166

Refractive Index (RI)

25°C

40°C 1.458–1.462

Other RI

Iodine Value 50–70

Saponification Value	185–207
Titer °C	
% Unsaponifiable	1–3
Melting Point °C	25–29 (raw), 26–29 (refined)
Solidification Point °C	17–22

Fatty Acid Composition (%)

8:0	0.2
10:0	0.1
12:0	0.2
14:0	0–0.3
16:0	16–28.2
9c-16:1	0–0.2
18:0	14–24.1
Total 18:1	34
9c-18:1	37.6–50
9c,12c-18:2	8–15.4
Undefined 18:3	0.2
20:0	0.2

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	16
Stigmasterol	7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	70
D5-Avenasterol	6
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	550

- References** *J. Am. Dietetic Assn.* 68: 224 (1976)
J. Am. Dietetic Assn. 73: 39 (1978)
J. Am. Oil Chem. Soc. 76: 1431–1436 (1999)

Indian Almond Oil*Terminalia catappa*

Specific Gravity (SG)	
15.5/15.5°C	0.920
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(30) 1.464
Iodine Value	75–82
Saponification Value	185–194
Titer °C	
% Unsaponifiable	0.5–2
Melting Point °C	3.5

Fatty Acid Composition (%)

14:0	0–1
16:0	28.5–35.2
9c-16:1	0–0.7
18:0	4–7.1
9c-18:1	27.5–41.5
11c-18:1	0–0.6
9c,12c-18:2	19.1–34.8
Undefined 18:3	0–0.8
20:0	0–1.3
22:0	0–0.2
13c-22:1	0–0.1
24:0	0–0.1

References**Indigofera Enneaphylla Seed Oil***Indigofera enneaphylla*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	

% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	14.9
18:0	13.8
Total 18:1	26.8
Undefined 18:2	38.7
20:0	2.4

References *Int. J Food Sci. Nutr.* 52:
337–341 (2001)

Ipomoea Aquatica Oil

Ipomoea aquatica

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.23
16:0	20.92
9c-16:1	0.19
18:0	9.87
9c-18:1	31.82
9c,12c-18:2	27.66
9c,12c,15c-18:3	1.05
20:0	2.22
11c-20:1	0.14
22:0	0.87
22:2	0.65
24:0	1.54

Tocopherol Composition, mg/kg

α-Tocopherol 63

β-Tocopherol

γ-Tocopherol 680

δ-Tocopherol 36
Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol

β-Tocotrienol

γ-Tocotrienol 35

δ-Tocotrienol

Total Tocotrienols, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Ipomoea Reptans Oil

Ipomoea reptans

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0	1.4
14:0	1.1
16:0	1.1
16:1	11.3
18:0	0.2
Undefined 18:2	7.3
Undefined 18:3	7.1
20:0	0.8
20:5	0.02
22:0	2.3
7c,10c,13c,16c-22:4	1.8
15c-24:1	50.8

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol

Stigmasterol	
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	15
% sterols in oil	
Total Sterols, mg/kg	

References *Food Chem.* 123: 1252–1254 (2010)

Ironwood/Nahar Fat (Indian Rose Chestnut)

Mesua ferrea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	73–93
Saponification Value	193–205
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–3
16:0	8–16.3
9c-16:1	0–0.3
18:0	10–16
Total 18:1	55–66
9c-18:1	57.4
9c,12c-18:2	6.5–20

20:0	0–2
22:0	0–0.3

References *inform 13*: 151 (2002)

Irvingia Gabonensis Kernel Fat (Dika Fat)

Irvingia gabonensis

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	2
Saponification Value	252
Titer °C	
% Unsaponifiable	0.4
Melting Point °C	

Fatty Acid Composition (%)

8:0	3
12:0	35–59
14:0	33–59
16:0	2–5
18:0	0.4–1
Total 18:1	0.6–2

References *Rev. Franc. Corps Gras* 39: 147 (1992)

Isano (Boleko) Seed Oil

Oneguekoa gore

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/4) 0.973–0.9838
Refractive Index (RI)	
25°C	1.5060–1.5079
40°C	
Other RI	
Iodine Value	
Saponification Value	187–194

Titer °C	
% Unsaponifiable	1–3
Melting Point °C	

Fatty Acid Composition (%)

14:0	1
16:0	4
18:0	1
Total 18:1	14
9c,12c-18:2	5
Other . . . 9a,11c-18:2, 10; 9a,11a-18:2, 10;	
9a,11a,17c-18:3, 32; 9a,11a,13c-18:3,	
2; 9a,11a,13c,17c-18:4,	
6; 8-OH,9a,11a-18:2, 4;	
8-OH,9a,11a,17c-18:3, 15;	
8-OH,9a,11a,13c,17c-18:4, 2;	
8-OH,9a,11a,13c-18:3, 1; threo-9,10-	
dihydroxy-18:0, 2	

References**Isotoma Longiflora Seed Oil***Isotoma longiflora*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	84
Saponification Value	278
Titer °C	
% Unsaponifiable	0.5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2
16:0	20–20.3
18:0	10.9–11
Total 18:1	35
9c-18:1	34.7
9c,12c-18:2	25–25.3
Undefined 18:3	2.8–3
20:0	3.6
22:0	2.2

References *Fette Seifen Anstrichm.* 86: 165 (1984)

Ivy Seed Oil*Hedera helix*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.467
Other RI	
Iodine Value	102
Saponification Value	181
Titer °C	
% Unsaponifiable	6.6
Melting Point °C	
Solidification Point °C	14

Fatty Acid Composition (%)

16:0	2.5–5
9c-16:1	0–1.4
18:0	0.5–1.7
9c-18:1	2.8–20
6c-18:1	62–82.4
11c-18:1	0–1.4
9c,12c-18:2	8–13
Undefined 18:3	0–0.2
11c-20:1	0–0.3

References**Jaboty Tallow (Fat, Butter)***Erismacalcaratum*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(78/4) 0.8764
Refractive Index (RI)	
25°C	
40°C	1.449–1.452
Other RI	(77) 1.4366
Iodine Value	4–23
Saponification Value	228–236
Titer °C	

% Unsaponifiable 0.3–1.6
Melting Point °C

Fatty Acid Composition (%)

12:0 23.9–24
14:0 52.8–53
16:0 18.9–19
Total 18:1 3
9c-18:1 2.8

References K.A. Williams, *Oils, Fats and Fatty Foods*, 4th edn., Elsevier, NY, 1966, pp. 288

Jack Bean Oil*Canavalia ensiformis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 36

Saponification Value 381–385

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0 0.2–48
14:0 0.4–19
16:0 6–14.99
9c-16:1 0.13–8
18:0 1.4–4
Total 18:1 18
9c-18:1 37.21–54.2
7c-18:1 4.05
9c,12c-18:2 7.4–21.17
Undefined 18:3 7.8
9c,12c,15c-18:3 8.25
20:0 0.7–0.74
11c-20:1 0.64–2.4
22:0 0.3–0.39
13c-22:1 0.28–3
22:2 0.26

24:0 1.27–1.6
Other 3.6

Tocopherol Composition, mg/kg

α-Tocopherol 58
β-Tocopherol 34
γ-Tocopherol 186
δ-Tocopherol 608
Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol
β-Tocotrienol
γ-Tocotrienol 29
δ-Tocotrienol 33
Total Tocotrienols, mg/kg

References *Riv. Ital. Sost. Grasse* 71: 421 (1994)
J. Am Oil Chem. Soc. 80: 1013–1020 (2003)

**Japan Tallow (Wax)/
(Sumac Wax)***Rhus succedanea*

Specific Gravity (SG)

15.5/15.5°C 0.975–1.00

25/25°C 0.965–0.990

Other SG (20/4) 0.97–0.98

Refractive Index (RI)

25°C

40°C 1.450–1.458

Other RI

Iodine Value 5–17

Saponification Value 209–237

Titer °C

% Unsaponifiable 1–2.5

Melting Point °C 53.5–55

Fatty Acid Composition (%)

14:0 1.9
16:0 67.5–77
18:0 11.6
9c-18:1 12–13.6
Other Dibasic acids, 5–7

References

Jatropha Oil (see also Physic Nut Oil)

Jatropha curcas

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.916
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.471
Iodine Value	95–110
Saponification Value	185–210
Titer °C	
% Unsaponifiable	0.9
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–1.4
16:0	3–28.4
9c-16:1	0–1.5
17:0	0.1
18:0	3.9–10
Total 18:1	34–64
9c-18:1	23–39.1
9c,12c-18:2	18–59
Undefined 18:3	0.2–0.7
20:0	0–0.2
9c-20:1	0.1
22:0	0.4–0.7
24:0	0.1
15c-24:1	0.1

References www.jatropha.de/oil.htm

Java Almond Fat

Dacryodes rostrata

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	53

Saponification Value	185
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–1
16:0	12–13
17:0	0–0.1
18:0	30.9–46
Total 18:1	38–50
9c-18:1	37.5–49.5
9c,12c-18:2	2–3
Undefined 18:3	0–0.3
20:0	1–3.1
22:0	0–0.1

References *Fat Sci. Technol.* 95: 367 (1993)

Java Olive Oil

Sterculia foetida

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4615
Other RI	
Iodine Value	76–85
Saponification Value	191–201
Titer °C	
% Unsaponifiable	0.5–1
Melting Point °C	

Fatty Acid Composition (%)

16:0	14.7–27
18:0	0.5–3.7
Total 18:1	9
9c-18:1	4.9–8.3
Undefined 18:2	6.3
9c,12c-18:2	4.1–9
19:1	45
20:0	0–1.8
11c-20:1	0–0.2
Other	Malvalic, 6–11.4; sterculic, 49–65.1

References *J. Am Oil Chem. Soc.* 45: 585 (1968)
J. Am Oil Chem. Soc. 75: 1757–1760 (1998)

Jojoba Oil

Simmondsia chinensis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG (25/5) 0.8642
 Refractive Index (RI)
 25°C 1.4648–1.4650
 40°C
 Other RI
 Iodine Value 81.7–89
 Saponification Value 92.2–95
 Titer °C
 % Unsaponifiable 37–49
 Melting Point °C 6.8–7
 Solidification Point °C 10
 Ignition Point °C 338
 Flash Point °C 295
 Boiling Point °C 398 (under nitrogen)

Fatty Acid Composition (%)

16:0 0.5–3
 9c-16:1 0.3–0.5
 18:0 0.1–0.2
 Total 18:1 5–12
 9c-18:1 6
 11c-18:1 0–1.1
 9c,12c-18:2 0–0.1
 20:0 0–0.1
 Total 20:1 66–74
 5c-20:1 35
 11c-20:1 71.3
 22:0 0.2–1
 Unidentified 22:1 7–19
 13c-22:1 13.6
 24:0 0–0.5
 15c-24:1 1–5
 26:0 0–0.1
 Other 26:1, 0–0.4

References *J. Am Oil Chem. Soc.* 54: 187 (1977)

J. Am Oil Chem. Soc. 61: 1061 (1984)

Judas Tree Oil

Cercis siliquastrum

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 7.4
 9c-16:1 0.2
 18:0 3
 9c-18:1 25.9
 11c-18:1 1.6
 9c,12c-18:2 61.1
 Undefined 18:3 0.4
 20:0 0.2
 11c-20:1 0.2

References

Jute Seed Oil

Corchorus spp.

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI (20) 1.462
 Iodine Value 103
 Saponification Value 185
 Titer °C
 % Unsaponifiable 2.3
 Melting Point °C

Solidification Point °C -20

Fatty Acid Composition (%)

12:0	0–8.7
14:0	0–2.1
16:0	21.4–60.2
9c-16:1	0–3.4
18:0	1.9–13.1
9c-18:1	5.9–17
9c,12c-18:2	12.9–67.9
Undefined 18:3	0–7.4
20:0	0–4.7
22:0	0–2.2

References

Kaiphal Oil

Myristica malabarica

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.4580–1.4593

Other RI

Iodine Value 50–54

Saponification Value 189–191

Titer °C

% Unsaponifiable

Melting Point °C 31–32

Fatty Acid Composition (%)

14:0	39–39.2
16:0	13–13.3
18:0	2.4
Total 18:1	44
9c-18:1	44.1
Undefined 18:2	1
9c,12c-18:2	1

References *inform 13*: 151 (2002)

Kanya Tallow (Fat)

Pentadesma butyracea

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 37–47

Saponification Value 188–194

Titer °C

% Unsaponifiable 1.5–1.8

Melting Point °C 28–40

Fatty Acid Composition (%)

12:0	0–0.2
14:0	0–0.1
16:0	3–8
9c-16:1	0.2
18:0	41–47.9
Total 18:1	48–51
9c-18:1	41.4–46.1
9c,12c-18:2	0–2.8
Undefined 18:3	0–0.6
20:0	0–2.8

References *J. Sci. Food Agric.* 28: 384 (1977)

Kapok Seed Oil

Ceiba pentandra/Bombax spp.

Specific Gravity (SG)

15.5/15.5°C 0.920–0.933

25/25°C

Other SG (15/4) 0.920–0.928

Refractive Index (RI)

25°C 1.466–1.472

40°C 1.460–1.466

Other RI (20) 1.4685–1.4710, (30) 1.4878

Iodine Value 86–110

Saponification Value 189–197

Titer °C

% Unsaponifiable 0.5–1.8

Melting Point °C 26.2–31.6

Fatty Acid Composition (%)

14:0	0–0.5
16:0	10–28

18:0	2–9
Total 18:1	45–65
9c-18:1	50.6
9c,12c-18:2	7–35
20:0	0.8–1
Other	Cyclopropenoid fatty acids, 0–15

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	9
Stigmasterol	2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	86
D5-Avenasterol	2
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References K.A.Williams, *Oils, Fats and Fatty Foods*, 4th edn., Elsevier, NY, 1966, pp. 288
Prog. Lipid Res. 22: 161 (1983)

Karaka Seed Oil*Corynocapus laevigatus***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value**Saponification Value**

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	13
18:0	7.0
Total 18:1	27
9c,12c-18:2	45
Undefined 18:3	1
20:0	4
22:0	1.4
24:0	0.4

References *J. Am Oil Chem. Soc.* 60: 1894 (1983)

Karanja (Pongram) Oil*Pongamia glabra***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 81–96

Saponification Value 177–193

Titer °C

% Unsaponifiable 0.3–9.2

Melting Point °C

Fatty Acid Composition (%)

14:0	0–1.6
16:0	3.7–15
18:0	2.4–8.9
Total 18:1	44.5–71.3
9c-18:1	48–55.1
Undefined 18:2	1.8–18.3
9c,12c-18:2	18.9–21.6
Undefined 18:3	5–7.7
20:0	1–4.7
22:0	0–4.2

References *inform 13*: 151 (2002)

Katio Fat*Madhuca mottleyana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(100/15) 0.864
Refractive Index (RI)	
25°C	
40°C	1.4609–1.4616
Other RI	
Iodine Value	53–67
Saponification Value	189–193
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	36–37

Fatty Acid Composition (%)

16:0	10
18:0	18.5–19
Total 18:1	69
9c-18:1	69
Undefined 18:2	2.5
9c,12c-18:2	2.5

References**Khakan (Pelu) Fat***Salvadora oleoides/S. persica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	5–8
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

8:0	2.5–4
10:0	0–5.1

12:0	19.6–50
14:0	26–55
16:0	4.5–19.5
18:0	10–16
9c,12c-18:2	0.6–5.4

References *inform 13*: 151 (2002)**Kiwi Seed Oil***Actinidia chinensis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	5.9
18:0	2.3
9c-18:1	13
9c,12c-18:2	15.8
Undefined 18:3	62.9
20:0	0.1
11c-20:1	0.2

References**Kokum Butter***Garcinia indica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.456
Other RI	

Iodine Value	33–37
Saponification Value	192
Titer °C	
% Unsaponifiable	
Melting Point °C	39–43

Fatty Acid Composition (%)

14:0	0–1
16:0	1.4–5
18:0	49–60.4
Total 18:1	39–49
9c-18:1	37.8
9c,12c-18:2	1–2

References *J. Am Oil Chem. Soc.* 76: 1431–1436 (1999)

Kombo Butter*Pycnanthus kombo*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	65–67
Saponification Value	224–255
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	5.5–6
14:0	61.6–62
14:1	24
9c-14:1	23.6
16:0	3.6–4
Total 18:1	6
9c-18:1	5.7

References *Brit. J. Nutr.* 72: 775 (1994)
inform 8: 116 (1997)
J. Am Oil Chem. Soc. 75: 865–870 (1998)

Korean Pine Seed Oil*Pinus koraiensis*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	4.9–5.1
9c-16:1	0.1–0.3
17:0	0–0.1
18:0	2–2.1
Total 18:1	26–30
9c-18:1	26.3–27
11c-18:1	0–0.2
9c,12c-18:2	43–46.7
Undefined 18:3	0.1–0.5
5c,9c,12c-18:3	14.5–18
20:0	0.3–0.7
Total 20:1	1
11c-20:1	1–1.7
20:2	5c,11c-20:2, 0.1;
	11c,14c-20:2, 0.5
Unidentified 20:3	5c,11c,14c-20:3, 1
22:0	0–0.1

References**Kusum Oil (Macassar/Paka Oil)***Macassar schleicheratrijuga/*
Schleicheria trijuga

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
	(15/4) 0.924–0.942

Refractive Index (RI)	
25°C	
40°C	1.459–1.462
Other RI	(21) 1.4675, (45) 1.4636
Iodine Value	47–69
Saponification Value	215–230
Titer °C	
% Unsaponifiable	1.5–7
Melting Point °C	21–31

Fatty Acid Composition (%)

12:0	0–0.3
14:0	0.2–1
16:0	5–10.8
9c-16:1	0–1.6
18:0	2–6
Total 18:1	57–62
9c-18:1	42.8–70
9c,12c-18:2	2–6.1
20:0	20–25
11c-20:1	0–9.2
22:0	0–1.4
13c-22:1	0–1
24:0	2–4

References K.A. Williams, *Oils, Fats and Fatty Foods*, 4th edn., Elsevier, NY, 1966, pp. 288

Lallemantia Oil

Lallemantia canescens/
L. iberica/*L. royleana*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4758
Other RI	(20) 1.424–1.434
Iodine Value	190–209
Saponification Value	194
Titer °C	
% Unsaponifiable	0.5
Melting Point °C	

Fatty Acid Composition (%)

16:0	5.3–8.3
18:0	1–3.2
Total 18:1	7–14
9c-18:1	9–16.2
9c,12c-18:2	9.4–38
Undefined 18:3	47–71
11c-20:1	0–0.5

References *Lipids* 2: 371 (1967)

Larix Sibirica Seed Oil

Larix sibirica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	3
9c-16:1	0.1
18:0	1–2
Total 18:1	17
9c,12c-18:2	43
Undefined 18:3	0.3
5c,9c,12c-18:3	31
20:0	0.2
Total 20:1	0.5
20:2	5c,11c-20:2, 0.1; 11c,14c-20:2, 0.5
Unidentified 20:3	.5c,11c,14c-20:3, 0.7
Other	5c,9c-18:2, 2; 5c,9c,2c,15c-18:4, 0.2

References *inform* 8: 116 (1997)

Laurel Berry (Bay Berry) Oil*Laurus nobilis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.921–0.941

Other SG (20/4) ca. 0.88, (15/4)

0.926–0.933

Refractive Index (RI)

25°C

40°C 1.460–1.465

Other RI

Iodine Value 68–99

Saponification Value 197–205

Titer °C

% Unsaponifiable 1–6.8

Melting Point °C ca. 36

Fatty Acid Composition (%)

12:0 11–43.1

14:0 0–2

16:0 6.2–14.1

9c-16:1 0–2

18:0 0–2

Total 18:1 33–41

9c-18:1 32.5–42

9c,12c-18:2 11–32

Undefined 18:3 0–2

References *Fette Seifen Anstrichm.* 85: 23
(1983)**Lawrencia Viridigrisea Oil***Lawrencia viridigrisea*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.3

16:0 9.9

16:1 tr

17:0 0.3

18:0 6.7

Total 18:1 7.8

9c-18:1 7.8

Undefined 18:2 67.8

9c,12c-18:2 67.8

Undefined 18:3 0.9

20:0 0.8

References *J. Am Oil Chem. Soc.* 68:
518–519 (1991)**Lemna Minor Oil***Lemna minor*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.2

16:0 0.2

16:1 5.3

18:0 0.2

Undefined 18:2 3.3

Undefined 18:3 3.1

20:0 0.2

20:5 0.1

22:0 tr

7c,10c,13c,16c-22:4 0.3

15c-24:1 72.3

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol	
Stigmasterol	
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	14.8
% sterols in oil	
Total Sterols, mg/kg	

References *Food Chem. 123*: 1252–1254
(2010)

Lemon Seed Oil

Citrus spp.

Specific Gravity (SG)	
15.5/15.5°C	0.921–0.923
25/25°C	0.916–0.919
Other SG	
Refractive Index (RI)	
25°C	1.472
40°C	1.463–1.466
Other RI	
Iodine Value	103–110
Saponification Value	188–198
Titer °C	
% Unsaponifiable	0.4–0.8
Melting Point °C	

Fatty Acid Composition (%)

12:0	1.8
14:0	0.5
16:0	41
9c-16:1	5
18:0	7
Total 18:1	34
9c,12c-18:2	5

Undefined 18:3 1

References *Pakistan J. Sci. Ind. Res. 30*:
710 (1987)

Lentil Seed Oil

Lens esculentus

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	3.7
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.7
16:0	15.4
18:0	3.7
9c-18:1	19.1
11c-18:1	0.4
9c,12c-18:2	46.4
Undefined 18:3	10.6
20:0	2.1
11c-20:1	0.7
22:0	0.5
24:0	0.2

References

Lesquerella Fendleri Seed (Bladderpod) Oil

Lesquerella fendleri

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	

40°C	1.4710
Other RI	
Iodine Value	104–106
Saponification Value	174
Titer °C	
% Unsaponifiable	1.82
Melting Point °C	

Fatty Acid Composition (%)

16:0	1–2
16:1	0.7
9c-16:1	0.5–1
18:0	1.9–2.1
Total 18:1	12–18.1
9c-18:1	14–17
Undefined 18:2	5–9.3
9c,12c-18:2	7–7.6
Undefined 18:3	11–14
20:0	0–0.4
Total 20:1	0.6–1.2
11c-20:1	0.1–1
Other	Lesquerolic C20:1(OH), 51.4

References *J. Am Oil Chem. Soc.* 72: 559 (1995)
J. Am Oil Chem. Soc. 67: 438–442 (1990)

Lesquerella Perforata Seed Oil*Lesquerella perforata*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4753
Other RI	
Iodine Value	138
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	5.6–6
18:0	3–4
Total 18:1	18–21
9c-18:1	24

Undefined 18:2	2
9c,12c-18:2	2
Undefined 18:3	10–13
20:0	0–0.3
Total 20:1	0.2

References *J. Am Oil Chem. Soc.* 42: 817 (1965)
J. Am Oil Chem. Soc. 72: 559 (1995)

Lesquerella Recurvata Seed Oil*Lesquerella recurvata*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	1
18:0	2
Total 18:1	11–13
9c-18:1	13
Undefined 18:2	5–8
9c,12c-18:2	8
Undefined 18:3	3–5
Total 20:1	1

References *J. Am Oil Chem. Soc.* 42: 817 (1965)
J. Am Oil Chem. Soc. 72: 559 (1995)

Lime Seed Oil*Citrus aurantifolia*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.917–0.919
Other SG	

Refractive Index (RI)	
25°C	1.467–1.475
40°C	1.462–1.469
Other RI	
Iodine Value	93–111
Saponification Value	191–198
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	25
18:0	5
Total 18:1	21
9c,12c-18:2	35
Undefined 18:3	12
20:0	1
22:0	1

References *Rev. Franc. Corp Gras* 40: 237 (1993)

Linden Seed Oil

Tilia spp.

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.703
40°C	
Other RI	
Iodine Value	123–126
Saponification Value	181–195
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	–21.5

Fatty Acid Composition (%)**References****Lindera Umbellata Seed Oil**

Lindera umbellata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.4620

40°C

Other RI

Iodine Value 71

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

10:0	3
12:0	29
14:0	3
Total 18:1	6
9c-18:1	6
9c,12c-18:2	3
Other	4c-10:1, 4; 4c-12:1, 47; 4c-14:1, 5

References *Lipids* 1: 118 (1966)

Lingonberry Seed Oil

Vaccinium vitis-idea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.480
40°C	
Other RI	
Iodine Value	169
Saponification Value	190
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

9c-18:1	17.8
9c,12c-18:2	51.5
Undefined 18:3	26.3

References

Linseed Oil (Flax)*Linum usitatissimum*

Specific Gravity (SG)	
15.5/15.5°C	0.930–0.936
25/25°C	0.924–0.930
Other SG (15/4)	0.926–0.936
Refractive Index (RI)	
25°C	1.477–1.482
40°C	1.472–1.475
Other RI (15)	1.4808–1.4859
Iodine Value	155–205
Saponification Value	180–196
Titer °C	
% Unsaponifiable	0.1–2
Melting Point °C	–20 to –16
Solidification Point °C	–27 to –18, 19–21

Fatty Acid Composition (%)

16:0	4–9.3
9c-16:1	0–0.1
18:0	2–16
Total 18:1	17.7–20.3
9c-18:1	14–39
11c-18:1	0–0.5
Undefined 18:2	15.7–15.9
9c,12c-18:2	7–25
Undefined 18:3	35–66
20:0	0–0.1

Sterol Composition, %

Cholesterol	0–0.9
Brassicasterol	0.1–0.7
Campesterol	25–31
Stigmasterol	6–9
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	45–53
D5-Avenasterol	8–12
D7-Stigmasterol	0–3
D7-Avenasterol	0–0.6
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	

% sterols in oil

Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α -Tocopherol	5–10
β -Tocopherol	
γ -Tocopherol	430–588
δ -Tocopherol	4–8
Total, mg/kg	440–588

References *inform I*: 937 (1990)

- J. Am Oil Chem. Soc.* 63: 328 (1986)
Prog. Lipid Res. 22: 161 (1983)
Fat Sci. Technol. 93: 519 (1991)
J. Sci. Food Agric. 72: 403 (1996)
J. Am Oil Chem. Soc. 74: 375–381 (1997)

Linseed Oil (Low Linolenic Flax)*Linum usitatissimum***Specific Gravity (SG)**

15.5/15.5°C	
25/25°C	0.917
Other SG	

Refractive Index (RI)

25°C	1.470
40°C	
Other RI (46)	1.4665

Iodine Value 144

Saponification Value 185

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	6
18:0	4
Total 18:1	16
9c,12c-18:2	72
Undefined 18:3	2

Sterol Composition, %

Cholesterol	
Brassicasterol	1
Campesterol	23
Stigmasterol	4
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	

D7,25-Stigmastadienol	
β-Sitosterol	54
D5-Avenasterol	18
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitosteranol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	2330

Tocopherol Composition, mg/kg	
α-Tocopherol	tr
β-Tocopherol	
γ-Tocopherol	170
δ-Tocopherol	
Total, mg/kg	

- References** *inform 1*: 937 (1990)
Lipid Technol. 6: 29 (1994)
 DSIR Plant Breeding Symp. N.Z.
 Agronomy Soc. *Special Publ. #5*,
 p. 266 (1986)

Litchi Chinensis Seed Oil

Litchi chinensis

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.19–0.5
15:0	0–0.3

16:0	8.36–14.7
9c-16:1	0.09–2
18:0	3.7–6.1
9c-18:1	23.80–31
7c-18:1	0.69
9c,12c-18:2	1.4–6.6
Undefined 18:3	6.2
9c,12c,15c-18:3	4.31
20:0	0.61
11c-20:1	0.77
22:0	0.26

Tocopherol Composition, mg/kg

α-Tocopherol	345
β-Tocopherol	64
γ-Tocopherol	105
δ-Tocopherol	121
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	925
β-Tocotrienol	
γ-Tocotrienol	127
δ-Tocotrienol	7675
Total Tocotrienols, mg/kg	

- References** *J. Am Oil Chem. Soc. 80*:
 1013–1020 (2003)

Longan Seed Oil

Euphoria longana

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	64
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.3
16:0	16–19

17:0	0.3
18:0	7–9
Total 18:1	0.3
9c-18:1	36
Undefined 18:2	11
9c,12c-18:2	6
Undefined 18:3	4–5
20:0	4–6
Total 20:1	0.5
11c-20:1	1
22:0	3–5
24:0	1–2

References *Oleagineux Corps Gras Lipides*
4: 459 (1997)

Louhocarpus Sericens Seed Oil

Louhocarpus sericens

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	6.6
9c-16:1	0.2
16:2	2.0
18:0	2.3
9c-18:1	18.0
11c-18:1	2.8
9c,12c-18:2	6.8
9c,12c,15c-18:3	26.5
20:0	1
Total 20:1	1.2
22:0	8.5

24:0	3.2
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References *J. Am Oil Chem. Soc.* 75: 1031
(1998)

Luffa Cylindrica Seed Oil

Luffa cylindrica

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.07
16:0	14.02–20
9c-16:1	0.1
18:0	7.18–13
9c-18:1	14–33.07
7c-18:1	0.61
9c,12c-18:2	42.98–57
9c,12c,15c-18:3	0.19
20:0	0.44
11c-20:1	0.09
22:0	0.10
22:2	0.11
24:0	0.09

Tocopherol Composition, mg/kg

α-Tocopherol 9

β-Tocopherol 3

γ-Tocopherol 320

δ-Tocopherol 2

Total, mg/kg

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)

Lupin (Lupine) Seed Oil*Lupinus albus*

Specific Gravity (SG)	
15.5/15.5°C	0.923
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4725–1.4758
Iodine Value	62–111
Saponification Value	179–193
Titer °C	
% Unsaponifiable	1–3
Melting Point °C	
Solidification Point °C	–19 to –9

Fatty Acid Composition (%)

16:0	8–8.2
9c-16:1	0–0.4
18:0	1.9–2
Total 18:1	52–61
9c-18:1	49–60
Undefined 18:2	16–23
9c,12c-18:2	20–39
Undefined 18:3	1–8
20:0	1–5.1
22:0	3–3.2
Unidentified 22:1	2–7

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	27
Stigmasterol	10
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	63
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	

Other

% sterols in oil

Total Sterols, mg/kg

References *Riv. Ital. Sost. Grasse* 57: 27
(1980)

Lupin (Lupine) Seed Oil*Lupinus angustifolius*

Specific Gravity (SG)	
15.5/15.5°C	0.9193
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(19) 1.4790
Iodine Value	105
Saponification Value	183
Titer °C	
% Unsaponifiable	4–5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2
16:0	8–11.6
17:0	0.1
18:0	5–6
Total 18:1	32
9c-18:1	32.2
9c,12c-18:2	41.1–48
Undefined 18:3	5–5.4
20:0	0.8–1
11c-20:1	0.5
22:0	1.7–2

References *J. Sci. Food Agric.* 25: 409
(1974)

Lupin (Lupine) Seed Oil*Lupinus luteus*

Specific Gravity (SG)	
15.5/15.5°C	0.9193
25/25°C	
Other SG	

Refractive Index (RI)	
25°C	
40°C	
Other RI	.....(20) 1.4770
Iodine Value	..... 116–124
Saponification Value	..... 177–185
Titer °C	
% Unsaponifiable	..... 4–5
Melting Point °C	

Fatty Acid Composition (%)

16:0	..... 5–5.5
18:0	..... 2–2.6
Total 18:1	..... 24–39
9c-18:1	..... 23.1
Undefined 18:2	..... 45–49
9c,12c-18:2	..... 50.3
Undefined 18:3	..... 1–8.8
20:0	..... 2–2.5
11c-20:1	..... 2.3
20:4	..... 2
22:0	..... 3.4–7
Unidentified 22:1	..... 1–6

References *Riv. Ital. Sost. Grasse* 57: 27 (1980)

Lupin (Lupine) Seed Oil*Lupinus mutabilis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	..... 10.9
9c-16:1	..... 0–0.4
18:0	..... 7
9c-18:1	..... 49.6

9c,12c-18:2	..... 27.8
Undefined 18:3	..... 2
20:0	..... 0.7
22:0	..... 0.4

References**Lupin (Lupine) Seed Oil***Lupinus termis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	..... 4.6
Melting Point °C	

Fatty Acid Composition (%)

12:0	..... 0–0.2
14:0	..... 0–0.2
16:0	..... 8.7
9c-16:1	..... 0.7
18:0	..... 1.7
9c-18:1	..... 42.1
9c,12c-18:2	..... 19.3
Undefined 18:3	..... 10.5
20:0	..... 1.2
11c-20:1	..... 4.5
22:0	..... 4.8
13c-22:1	..... 3.2
24:0	..... 1.2

References**Lupu Fat***Theobroma bicolor*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)	
25°C	
40°C	1.4565–1.4576
Other RI	
Iodine Value	38–44
Saponification Value	188–189
Titer °C	
% Unsaponifiable	0.4–0.9
Melting Point °C	42

Fatty Acid Composition (%)

16:0	5–10
18:0	34–50
Total 18:1	39–51
9c-18:1	45.1
9c,12c-18:2	3–5
20:0	1.9–2.1

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	3
Stigmasterol	9
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	83
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	5
% sterols in oil	
Total Sterols, mg/kg	250

Tocopherol Composition, mg/kg

α-Tocopherol	
β-Tocopherol	
γ-Tocopherol	78
δ-Tocopherol	8
Total, mg/kg	86

References *J. Am Oil Chem. Soc.* 71: 845 (1994)

Macadamia Nut Oil*Macadamia integrifolia*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(15/4) 0.912–0.916
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4675–1.4698
Iodine Value	74–76
Saponification Value	193–196
Titer °C	
% Unsaponifiable	0.5
Melting Point °C	–12

Fatty Acid Composition (%)

14:0	0.5–1
16:0	8–10.1
9c-16:1	18.3–29.3
18:0	2–6.2
Total 18:1	56–59
9c-18:1	46.2–55.4
11c-18:1	4.6
9c,12c-18:2	2–3
20:0	2–3.7
Total 20:1	1.5–3
11c-20:1	1.7–2.4
22:0	0.8
Unidentified 22:1	0.3
24:0	0.5
Other	17:1, 0.1

References *J. Am. Soc. Horticultural Sci.* 98: 453 (1973)
J. Food Technol. 13: 355 (1978)

Madia Oil*Madia sativa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(15/4) 0.923–0.929
Refractive Index (RI)	
25°C	
40°C	

Other RI	
Iodine Value	117–129
Saponification Value	192–195
Titer °C	
% Unsaponifiable	0.5–1
Melting Point °C	
Solidification Point °C	–10

Fatty Acid Composition (%)

16:0	8–11.5
9c-16:1	0–0.1
18:0	3–5
9c-18:1	10–25
9c,12c-18:2	65–73.4
Undefined 18:3	0–0.1
20:0	0–0.4
11c-20:1	0–0.1
22:0	0–0.1
13c-22:1	0–0.2

References**Madras Thorn Seed Oil***Pithecellobium dulce*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	13.4
18:0	3.6
Total 18:1	50.1
Undefined 18:2	3.8
20:0	2.2

References *Int. J Food Sci. Nutr.* 52: 337–341 (2001)

Mahua Fat*Madhuca latifolia*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.2
16:0	16–24
9c-16:1	0–0.2
18:0	19.3–24.1
Total 18:1	39
9c-18:1	37.6–45.2
Undefined 18:2	17
9c,12c-18:2	9.4–15.4

References *J. Am Oil Chem. Soc.* 76: 1431 (1999)

Mahua Oil*Madhuca indica*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
Flash Point °C	232

Fatty Acid Composition (%)

16:0	16–37
18:0	18–25.1
Total 18:1	32–38
9c-18:1	41–51
Undefined 18:2	14–18
9c,12c-18:2	8.9–13.7
Undefined 18:3	1
20:0	0–3.3

References *inform 13*: 151 (2002)*Biomass Bioenerg* 28: 601–605 (2005)**Mammy Apple Seed Oil***Calocarpum mammosum*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	0.910–0.913
Other SG	

Refractive Index (RI)

25°C	1.465–1.469
40°C	
Other RI	

Iodine Value

60–74

Saponification Value

188–199

Titer °C

1.4

% Unsaponifiable

1.4

Melting Point °C

1.4

Fatty Acid Composition (%)

16:0 9.4–18

18:0 12–22.3

Total 18:1 38–54

9c-18:1 52.1–54.3

9c,12c-18:2 12.9–24

Mango Pulp Oil*Mangifera indica*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0	0.3–3
14:0	1–12
16:0	22–30
9c-16:1	16–30
18:0	1–2
Total 18:1	24–40
9c-18:1	14.1
11c-18:1	14.3
9c,12c-18:2	0.4–10
Undefined 18:3	4.6–9

References *J. Am Oil Chem. Soc.* 52: 514

(1975)

Mango Seed Oil*Mangifera indica*

Specific Gravity (SG)

15.5/15.5°C	0.9133–0.9135
25/25°C	
Other SG	(30/30) 0.9139

Refractive Index (RI)

25°C	1.4609–1.4610
40°C	1.4598–1.4600
Other RI	

Iodine Value

39–48

Saponification Value

188–195

Titer °C

0.9–5.3

% Unsaponifiable

0.9–5.3

Melting Point °C

49.1–49.3

Solidification Point °C

49.1–49.3

Fatty Acid Composition (%)

12:0 0.3–0.4

14:0 0–0.8

16:0 3–18

9c-16:1 0.05–0.2

18:0 26–57

Total 18:1	38–50
9c-18:1	34–56
7c-18:1	0.15
9c,12c-18:2	1–13
Undefined 18:3	0–1.4
9c,12c,15c-18:3	1.25
20:0	1.6–6
11c-20:1	0.29
22:0	0–1.3
13c-22:1	0.01
22:2	0.22
24:0	0.14–0.89

Tocopherol Composition, mg/kg

α-Tocopherol	103
β-Tocopherol	
γ-Tocopherol	
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	179
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 54: 494 (1977)

Fat Sci. Technol. 89: 306 (1987)

J. Am Oil Chem. Soc. 80: 1013–1020 (2003)

Marigold Seed Oil*Calendula officinalis***Specific Gravity (SG)**

15.5/15.5°C	
25/25°C	0.940
Other SG	

Refractive Index (RI)

25°C	1.5080
40°C	1.5025
Other RI	

Iodine Value 242

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	4
18:0	1.5
Total 18:1	4
9c,12c-18:2	30
Undefined 18:3	0.6
Other	8t,10t,12c-18:3 (calendic), 59

References *Ind. Crops Prod.* 1: 57 (1992)

Marine Microalga Fatty Acid Extract*Isochrysis galbana***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value**Saponification Value**

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	10–11
16:0	19
16:1	23
18:0	0.5
9c-18:1	1.7
11c-18:1	3.2
Undefined 18:2	0.9
6c,9c,12c-18:3	0.2
9c,12c,15c-18:3	1.3
6c,9c,12c,15c-18:4	7
8c,11c,14c-20:3	0.2
5c,8c,11c,14c-20:4	0.7
5c,8c,11c,14c,17c-20:5	22
7c,10c,13c,16c-22:4	1.3
4c,7c,10c,13c,16c,19c-22:6	23

References *J. Am Oil Chem. Soc.* 72: 575 (1995)

Meadowfoam Seed Oil (Alba)*Limnanthes alba*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.905–0.907
Other SG	
Refractive Index (RI)	
25°C	1.4701
40°C	1.4644–1.4650
Other RI	
Iodine Value	94–114
Saponification Value	
Titer °C	
% Unsaponifiable	0.2
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–0.2
14:0	0–0.1
16:0	0–0.2
9c-16:1	0–0.2
18:0	0–0.1
Total 18:1	1–2
9c-18:1	1
9c,12c-18:2	0–0.5
Undefined 18:3	0–0.3
20:0	0–0.7
5c-20:1	61–63
Unidentified 22:1	2.5–4 (5c)
13c-22:1	10–15
5c,13c-22:2	18

References *J. Am Oil Chem. Soc.* 64: 1493 (1987)

J. Am Oil Chem. Soc. 41: 167 (1964)

E.H. Pryde, et al., eds., *New Sources Of Fats and Oils*, AOCS Press, IL, 1981
Ind. Crop. Prod. 1: 57 (1992)

Meadowfoam Seed Oil (Douglas)*Limnanthes douglasii*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	1.4628–1.4652
Other RI	

Iodine Value 86–91

Saponification Value 168

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–0.1
16:0	0.1–0.4
9c-16:1	0.2–0.3
18:0	0–0.3
Total 18:1	1–3
9c-18:1	2
9c,12c-18:2	0.2–1
Undefined 18:3	0–0.6
20:0	1
5c-20:1	58–77
Unidentified 22:1	8–24
13c-22:1	20
5c,13c-22:2	7–15

References *J. Am Oil Chem. Soc.* 41: 167 (1964)

Mediterranean Seagrass Oil*Posidonia oceanica*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0	6
14:0	0.2

16:0	21
16:1	0.5
16:2	0.3
18:0	3
Total 18:1	2–3
Undefined 18:2	28
Undefined 18:3	37
20:0	0.2
22:0	0.2
Unidentified 22:1	0.3
24:0	0.3

References *Phytochemistry* 34: 381 (1993)

Melon Loco Oil

Apodanthera undulata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	13
18:0	4
9c-18:1	11
9c,12c-18:2	42
Undefined 18:3	tr

References

Mexican Palo Verd (Jerusalem Thorn) Seed Oil

Parkinsonia aculeata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	1.1
15:0	0–0.3
16:0	13.4–13.8
17:0	0–0.2
18:0	4.3–4.6
Total 18:1	18.8
9c-18:1	17.8
Undefined 18:2	59.6
9c,12c-18:2	61.3
20:0	1.1–1.5

References *Int. J Food Sci. Nutr.* 52: 337–341 (2001)

Millet Oil (Pearl Millet)

Pennisetum americanum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	16.2–18.1
9c-16:1	0–0.4
18:0	5.1–5.2
9c-18:1	26.5–26.7
9c,12c-18:2	44.8–47.8

Undefined 18:3	2.9–3
20:0	1.1–1.3
11c-20:1	0–0.3
22:0	0–0.3
24:0	0–0.2

References**Millet Oil (Proso Millet)***Panicum miliaceum*

Specific Gravity (SG)	
15.5/15.5°C	0.9383
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.472
40°C	1.4577
Other RI	
Iodine Value	120–136
Saponification Value	170–194
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	–12 to –6

Fatty Acid Composition (%)

16:0	6
18:0	1
Total 18:1	25
9c-18:1	27
9c,12c-18:2	52.9–66
Undefined 18:3	1–8.1
20:0	0.5
5c,8c,11c,14c-20:4	0.1
22:0	0.4
Unidentified 22:1	0.1

References *Cereal Chem.* 71: 355 (1994)**Milletia Thoningii Seed Oil***Milletia thonningii*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	

25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	4.8
16:2	1.7
18:0	2.7
9c-18:1	17.9
11c-18:1	0.3
9c,12c-18:2	7.7
9c,12c,15c-18:3	23.1
20:0	1.1
Total 20:1	1.7
22:0	8.9
24:0	2.5

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)**Mock Orange Oil***Cucurbita palmata*

Specific Gravity (SG)	
15.5/15.5°C	0.9289
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4862
40°C	
Other RI	
Iodine Value	131–139
Saponification Value	191–193
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	1–8
18:0	5–9
Total 18:1	34
9c-18:1	34–35
Undefined 18:2	44
9c,12c-18:2	35

Undefined 18:3 6–12

References

Momordica Cochinchinensis Seed Oil

Momordica cochinchinensis

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	2.05–2.9
9c-16:1	0–0.3
18:0	17.99–21
9c-18:1	7.92–14.2
7c-18:1	0.1
9c,12c-18:2	7.9–10.49
Undefined 18:3	58.61
9c,12c,15c-18:3	0.24
20:0	0.25
11c-20:1	0.25
22:0	0.22

Tocopherol Composition, mg/kg

α-Tocopherol	176
β-Tocopherol	3
γ-Tocopherol	93
δ-Tocopherol	2
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Monkey Pod Seed Oil

Samanea saman

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.954
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	90–95
Saponification Value	193
Titer °C	
% Unsaponifiable	4
Melting Point °C	

Fatty Acid Composition (%)

14:0	1–2
16:0	2
9c-16:1	1–2
Total 18:1	61
9c,12c-18:2	20
Undefined 18:3	6
20:0	2
Total 20:1	4

References *Riv. Ital. Sost. Grasse* 73: 165 (1996)

Monkey-bread Tree Oil

Adansonia digitata

Specific Gravity (SG)	
15.5/15.5°C	0.914
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.50
Iodine Value	76–87.9
Saponification Value	165–250
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	–3 to 3

Fatty Acid Composition (%)

14:0	0.2–0.78
16:0	15.5–30
9c-16:1	0.1–0.2
16:2	0.7
17:0	0–0.2
8a,10t-17:2	0–0.2
18:0	2–9
9c-18:1	24.7–42
11c-18:1	0.7
9c,12c-18:2	19.1–35
Undefined 18:3	0–1.5
6c,9c,12c-18:3	0.4
9c,12c,15c-18:3	1.6
20:0	0.3–1
11c-20:1	0–0.2
22:0	0–0.6
13c-22:1	0–0.4

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

S. Afr. J. Bot. 77: 920–933 (2011)

Moringa Oleifera Seed (Ben) Oil

Moringa oleifera

Specific Gravity (SG)

15.5/15.5°C	0.913–0.919
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.4650
40°C	1.4559–1.4653
Other RI	

Iodine Value 65.74–73

Saponification Value 184.16–188

Titer °C

% Unsaponifiable 1–2

Melting Point °C

Fatty Acid Composition (%)

8:0	0.02–0.03
14:0	0.1–1.5
16:0	5–9.3
9c-16:1	0.11–1.4
7c-16:1	1.10
17:0	0.04

18:0	5.7–8
Total 18:1	66–76
9c-18:1	65.7–70
Undefined 18:2	0.71
9c,12c-18:2	0.6–4
Undefined 18:3	0.1–0.21
20:0	3–6.8
Total 20:1	2–3
11c-20:1	2.1
22:0	5–8.6
Unidentified 22:1	0.11
24:0	0–5
26:0	0.98–1

Sterol Composition, %

Cholesterol	0.2
Brassicasterol	0.1
Campesterol	23.83–24
Stigmasterol	17–17.03
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	1.23
D7,25-Stigmastadienol	0.39
β-Sitosterol	47–47.07
D5-Avenasterol	2.9
D7-Stigmasterol	0.8
D7-Avenasterol	0.19–0.5
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitosterol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	0.9–1.0
Other . . . D5,25-Ergostadienol, 0.1–0.30;	
D5,24-Ergostadienol, 0.5; clerosterol,	
0.7; stigmastanol, 0.77–0.9;	
D7,14-Stigmastadienol, 0.5;	
D5,23-Stigmastadienol,	
1.2; campestanol, 0.4–0.5;	
28-Isoavenasterol, 0.25	

% sterols in oil

Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α-Tocopherol	93–227
β-Tocopherol	
γ-Tocopherol	26–71
δ-Tocopherol	53.98–216
Total, mg/kg	

References *Riv. Ital. Sost. Grasse* 75: 21 (1998)
Riv. Ital. Sost. Grasse 75: 181 (1998)
inform 13: 151 (2002)

Moringa Peregrina Seed Oil

Moringa peregrina

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG (24/24) 0.906
 Refractive Index (RI)
 25°C
 40°C 1.460
 Other RI
 Iodine Value 70
 Saponification Value 185
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

10:0 0.1
 14:0 0.1
 16:0 8.9–9.3
 9c-16:1 2.4
 18:0 3.5–3.8
 Total 18:1 70.5
 9c-18:1 78
 9c,12c-18:2 0.6
 Undefined 18:3 1.6
 20:0 1.8–1.9
 Total 20:1 1.5
 22:0 2.4–2.6
 Unidentified 22:1 0.5

Sterol Composition, %

Cholesterol 0.09–0.1
 Brassicasterol 0.08–0.4
 Campesterol 25
 Stigmasterol 27
 Stigmasta-8,22-dien-3 β -ol
 5 α -Stigmasta-7,22-dien-3 β -ol
 D7,25-Stigmastadienol
 β -Sitosterol 27
 D5-Avenasterol 10
 D7-Stigmasterol
 D7-Avenasterol 1

D7-Campesterol
 D7-Ergosterol 0.09
 D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol 3
 Other Clerosterol, 0.8;
 stigmastanol, 0.8; campestanol,
 0.5; D7-Campestanol 0.5; D5,23-
 Stigmastadienol, 0.2; D5,24-
 Stigmastadienol, 2.4
 % sterols in oil
 Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α -Tocopherol 145
 β -Tocopherol
 γ -Tocopherol 58
 δ -Tocopherol 66
 Total, mg/kg

References *Grasas y Acietes* 49: 170 (1998)

Mowrah Butter

Madhuca latifolia/*M. longifolia*

Specific Gravity (SG)
 15.5/15.5°C 0.919–0.024
 25/25°C
 Other SG (100/15) 0.856–0.870,
 (100/4) 0.857–0.870
 Refractive Index (RI)
 25°C
 40°C 1.4577–1.462
 Other RI
 Iodine Value 30–77
 Saponification Value 187–200
 Titer °C
 % Unsaponifiable 0.3–3.5
 Melting Point °C 23–40
 Solidification Point °C 18–45

Fatty Acid Composition (%)

14:0 0–1
 16:0 16–28.2
 9c-16:1 0–0.2
 18:0 14.1–25
 9c-18:1 37.6–48.8

Undefined 18:2	14
9c,12c-18:2	8.9–15.4
20:0	3.3

References**Mulberry Seed Oil***Morus alba*

Specific Gravity (SG)	
15.5/15.5°C	0.923–0.935
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4735–1.4739
40°C	
Other RI	
Iodine Value	104–144
Saponification Value	190–192
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)**References****Munch Seed Oil***Dimorphotheca pluvialis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
Fatty Acid Composition (%)	
16:0	1.9
18:0	1.5
Total 18:1	17.5

9c,12c-18:2	12.3
Undefined 18:3	1.7
22:0	2
Unidentified 22:1	2
Other	9-hydroxy10t,12t-18:2 (Dimorphecolic), 61.7; dehydrodimorphecolic, 1.0

References *J. Am Oil Chem. Soc.* 71: 313
(1994)

Murumuru Tallow*Astrocaryum murumuru*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	8–13
Saponification Value	237–247
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

6:0	0–0.1
8:0	1.3
10:0	1.5
12:0	46.2
14:0	32.4
16:0	5.6
16:1	0–0.1
18:0	2.2
Total 18:1	8.9
Undefined 18:2	1.5
20:0	0–0.2

References**Mustard Greens Seed Oil***Brassica juncea*

Specific Gravity (SG)	15.5/15.5°C
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25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 1.6–11.7
 9c-16:1 0–0.4
 18:0 2–8.4
 9c-18:1 2.2–37.1
 9c,12c-18:2 4–32.7
 Undefined 18:3 10–23.4
 20:0 0.8
 11c-20:1 1.7–15.8
 22:0 0.3
 13c-22:1 17.2–68.8
 15c-24:1 0–0.5

References

Mustard Seed Oil

*Black - Brassica juncea/
 B. nigra; White/Yellow -
 Sinapsis alba*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG(20/20) 0.910–0.921
 Refractive Index (RI)
 25°C
 40°C 1.461–1.469
 Other RI
 Iodine Value 92–125
 Saponification Value 168–184
 Titer °C
 % Unsaponifiable 0–1.5
 Melting Point °C

Fatty Acid Composition (%)

14:0 0–1.4

16:0 0.5–4.5
 9c-16:1 0–0.5
 18:0 0.5–2
 Total 18:1 8–23
 7c-18:1 1.22
 11c-18:1 7.77
 9c,12c-18:2 10–24
 Undefined 18:3 5.9–18
 9c,12c,15c-18:3 11.84
 20:0 0–1.5
 Total 20:1 5–13
 11c-20:1 5.71
 20:2 0–1
 22:0 0.2–2.5
 Unidentified 22:1 22–50
 13c-22:1 43.27
 22:2 0–1.46
 24:0 0–0.67
 15c-24:1 0.5–2.5

Sterol Composition, %

Cholesterol
 Brassicasterol 6
 Campesterol 33
 Stigmasterol
 Stigmasta-8,22-dien-3β-ol
 5α-Stigmasta-7,22-dien-3β-ol
 D7,25-Stigmastadienol
 β-Sitosterol 58
 D5-Avenasterol 2
 D7-Stigmasterol
 D7-Avenasterol
 D7-Campesterol
 D7-Ergosterol
 D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg

Tocopherol Composition, mg/kg

α-Tocopherol 75–138
 β-Tocopherol
 γ-Tocopherol 308–494
 δ-Tocopherol 0–31
 Total, mg/kg 446–663

Tocotrienols Composition, mg/kg	
α-Tocotrienol	2
β-Tocotrienol	
γ-Tocotrienol	
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

- References** *Codex* 1993/16
Riv. Ital. Sost. Grasse 52: 79 (1975)
J. Nutr. 81: 335 (1963)
J. Am Oil Chem. Soc. 53: 732 (1976)
J. Am Oil Chem. Soc. 80: 1013–1020 (2003)
Res. J. Pharm., Biol. Chem. Sci. 2: 927–936 (2011)

Mustard Seed Oil, Abyssinian

Brassica carinata

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	4
9c-16:1	0.4
18:0	1
9c-18:1	8
9c,12c-18:2	19
Undefined 18:3	14
20:0	1
11c-20:1	8
22:0	0.6
13c-22:1	42
15c-24:1	2

References

Mustard Seed Oil (Black)

Brassica nigra

Specific Gravity (SG)	
15.5/15.5°C	0.912–0.922
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4739
Iodine Value	96–107
Saponification Value	174–175
Titer °C	
% Unsaponifiable	1–1.5
Melting Point °C	
Solidification Point °C	–18 to –11

Fatty Acid Composition (%)

16:0	3–11.6
9c-16:1	0.3–0.4
18:0	1–1.7
9c-18:1	8–28.4
9c,12c-18:2	4.7–24.1
Undefined 18:3	13.7–28
20:0	0.8–1.2
11c-20:1	1.4–12.8
22:0	0.2–0.8
13c-22:1	17.4–65

References

Mustard Seed Oil (Oriental)

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	2.8
16:1	0.2
18:0	1.5
Total 18:1	21.4
Undefined 18:2	19.9
Undefined 18:3	12.1
20:0	1.0
Total 20:1	13.5
20:2	1.1
22:0	0.5
Unidentified 22:1	23.1
22:2	0.4
24:0	0.3
15c-24:1	1.4

References Canadian Grain Commission

Mustard Seed Oil (White/ Yellow)

Sinapis alba

Specific Gravity (SG)	
15.5/15.5°C	0.911–0.915
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4704, (15) 1.4750
Iodine Value	92–109
Saponification Value	170–178
Titer °C	
% Unsaponifiable	
Melting Point °C	
Solidification Point °C	–16 to –8

Fatty Acid Composition (%)

16:0	2–6.9
9c-16:1	0–0.3
18:0	0.6–1.8
9c-18:1	10–33.4
9c,12c-18:2	3.2–19.5
Undefined 18:3	7.6–16.1
20:0	0–1
11c-20:1	1.1–11.8
22:0	0–0.6
13c-22:1	19.7–62.1

24:0	1
15c-24:1	0–3

References

Myrica Wax

Myrica pensylvanica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)**References**

Nanking Cherry Kernel Oil

Prunus tomentosa

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	0.6–3.4
18:0	1.1–7.1
Total 18:1	54.1–56.9
Undefined 18:2	35.6–38.8

References *Chem. Nat. Compd.* 38: 5
(2002)

Nectarine Seed Oil

Prunus persica var nectarina

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	108
Saponification Value	192
Titer °C	
% Unsaponifiable	0.8
Melting Point °C	

Fatty Acid Composition (%)

16:0	3.6–8.6
16:1	0.5
18:0	0.8–2.8
Total 18:1	30.2–66.3
Undefined 18:2	26.8–63.7
20:0	0.3

References *J. Am Oil Chem. Soc.* 69:
492–494 (1992)

Neem (Margosa) Oil

Melia indica/Azadirachta indica

Specific Gravity (SG)	
15.5/15.5°C	0.9154–0.9230
25/25°C	
Other SG	(30/30) 0.913–0.918
Refractive Index (RI)	
25°C	
40°C	1.461–1.4627
Other RI	
Iodine Value	68–74
Saponification Value	185–204
Titer °C	
% Unsaponifiable	1–7.7

Melting Point °C
Solidification Point °C 9

Fatty Acid Composition (%)

14:0	0.1–2.6
16:0	13–18.1
9c-16:1	0.2
18:0	14–24
Total 18:1	49–62
9c-18:1	50.4–58.5
9c,12c-18:2	7–15
Undefined 18:3	0.5
20:0	0.8–4
11c-20:1	0–0.1
22:0	0–0.2

References *Food Chem.* 26: 119 (1987)
Chem. Nat. Compd. 38: 5 (2002)

Neou Seed Oil

Parinarium macrophyllum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.02
16:0	4.12–8
9c-16:1	0.34
18:0	4–7.1
9c-18:1	32.8–44
7c-18:1	1.18
11c-18:1	0–0.7
9c,12c-18:2	2.99–20.1
9c,12c,15c-18:3	0.2
20:0	0–33.24
11c-20:1	0–8.24
22:0	3.92

13c-22:1	1.06
22:2	0.6
24:0	0.79

Tocopherol Composition, mg/kg	
α-Tocopherol	7
β-Tocopherol	
γ-Tocopherol	4
δ-Tocopherol	4
Total, mg/kg	

Tocotrienols Composition, mg/kg	
α-Tocotrienol	7
β-Tocotrienol	
γ-Tocotrienol	4
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *Fat Sci. Technol.* 96: 64 (1994)

Nephelium Lappaceum Oil

Nephelium lappaceum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(78/4) 0.8901
Refractive Index (RI)	
25°C	
40°C	1.483–1.485
Other RI	

Iodine Value	130–140
Saponification Value	184–190
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	2–12
18:0	2–13.8
Total 18:1	33–40
9c-18:1	45.3
9c,12c-18:2	15–20
9c,11t,13t-18:3	31–32
20:0	34.7
11c-20:1	4.2
22:0	0.4

References

Nigella Seed (Black Cumin) Oil

Nigella sativa

Specific Gravity (SG)	
15.5/15.5°C	0.925
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4649
Other RI	
Iodine Value	107–117
Saponification Value	195–207
Titer °C	
% Unsaponifiable	ca. 0.5
Melting Point °C	
Solidification Point °C	< 0

Fatty Acid Composition (%)

14:0	0.1–0.4
16:0	11.4–13
16:1	tr
18:0	2–4
Total 18:1	21.9
9c-18:1	18–25
Undefined 18:2	60.8
9c,12c-18:2	50–61.6
Undefined 18:3	0.1–1
20:0	0.1–0.4
20:4	0.1–0.4
22:0	0–0.2

Tocopherol Composition, mg/kg	
α-Tocopherol	40
β-Tocopherol	50
γ-Tocopherol	250
δ-Tocopherol	
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 74: 375–380 (1997)

Niger Fruit Oil

Guizotia abyssinica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(15/4) 0.923–0.926

Refractive Index (RI)	
25°C	
40°C	1.466–1.468
Other RI	(15) 1.4708–1.4766
Iodine Value	136–139
Saponification Value	189–198
Titer °C	
% Unsaponifiable	0.3–1.5
Melting Point °C	–15 to –7
Solidification Point °C	–15 to –8

Fatty Acid Composition (%)

16:0	8.41
18:0	4.89
9c-18:1	31.06
Undefined 18:3	54.34
13c-22:1	52

References**Niger Seed Oil***Guizotia abyssinica*

Specific Gravity (SG)	
15.5/15.5°C	0.923–0.927
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.467–1.469
Other RI	
Iodine Value	126–135
Saponification Value	188–193
Titer °C	
% Unsaponifiable	0.5–3.7
Melting Point °C	
Solidification Point °C	3

Fatty Acid Composition (%)

14:0	1–3
16:0	5–12
16:1	tr
9c-16:1	0.1
18:0	2–12
Total 18:1	4–10
9c-18:1	9.2
11c-18:1	0.1–0.4
Undefined 18:2	76.7
9c,12c-18:2	52–78

Undefined 18:3	0–3
20:0	0.2–0.4
22:0	0.3–0.6
13c-22:1	0–0.6
24:0	0.2–0.3

Sterol Composition, %

Cholesterol	0.2–0.8
Brassicasterol	
Campesterol	12–13
Stigmasterol	13–14
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	38–43
D5-Avenasterol	6–7
D7-Stigmasterol	4–5
D7-Avenasterol	4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	14–22
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α-Tocopherol	600–800
β-Tocopherol	6–8
γ-Tocopherol	24–40
δ-Tocopherol	
Total, mg/kg	657–853

References *J. Am Oil Chem. Soc.* 71: 839 (1994)

J. Am Oil Chem. Soc. 74: 375–380 (1997)

Nutmeg Butter (Oil)*Myristica fragrans*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(15/4) 0.945–0.960
Refractive Index (RI)	
25°C	

40°C	1.4659–1.4705
Other RI	
Iodine Value	40–85
Saponification Value	168–190
Titer °C	
% Unsaponifiable	
Melting Point °C	45–51

Fatty Acid Composition (%)

12:0	0.4–20.8
14:0	71.8–83
16:0	0.3–14.3
9c-16:1	4.8
18:0	1.2
Total 18:1	4.8–11
9c-18:1	5.2–5.5
9c,12c-18:2	0–2

References *J. Am. Dietetic Assn.* 68: 224 (1976)

Oat Bean Oil*Pentaclethera macrophylla*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9073
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(30) 1.4723
Iodine Value	86–96
Saponification Value	181–187
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.3
14:0	0.7
16:0	3.8
9c-16:1	0.1
18:0	2.4
Total 18:1	31
9c,12c-18:2	36
20:0	2.4
Total 20:1	1.7

22:0	4
15c-24:1	17

References *Riv. Ital. Sost. Grasse* 61: 569 (1984)

Oat Oil*Avena sativa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.919–0.921
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.464–1.470
Other RI	
Iodine Value	105–116
Saponification Value	180–199
Titer °C	
% Unsaponifiable	1.3–2.6
Melting Point °C	
Solidification Point °C	3

Fatty Acid Composition (%)

12:0	0–0.4
14:0	0.2–4.9
16:0	13.2–39.4
16:1	0.1–0.5
9c-16:1	0.1
18:0	0.5–4
Total 18:1	17.9–53
Undefined 18:2	24–53
9c,12c-18:2	24–48
Undefined 18:3	0.7–5
20:0	0.2
Total 20:1	2.4
Total lipids (dry wt basis)	2–11.8

Tocopherol Composition, mg/kg

α-Tocopherol	19
β-Tocopherol	6
γ-Tocopherol	
δ-Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	51
β-Tocotrienol	12

γ -Tocotrienol	7
δ -Tocotrienol	5
Total Tocotrienols, mg/kg	175

- References** *J. Am Oil Chem. Soc.* 52: 358 (1975)
J. Am Oil Chem. Soc. 52: 491 (1975)
J. Am Oil Chem. Soc. 54: 305 (1977)
Anal. Biochem. 32: 81 (1969)
J. Am Oil Chem. Soc. 76: 159–169 (1999)

Ochoco Butter (Kernel Fat)

Scyphocephalum ochocoa

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG (60/4)	0.8899
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	1.7
Saponification Value	239
Titer °C	
% Unsaponifiable	
Melting Point °C	45–48

Fatty Acid Composition (%)

12:0	17
14:0	81.5–82
16:0	1
Total 18:1	0.5
9c-18:1	0.5

- References** *Rev. Franc. Corp Gras* 39: 147 (1992)

Ogwu Ugwo Seed Oil

Mitracarpus villosus

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	

40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.19–0.21
16:0	19.2–19.7
16:1	0.29–0.31
17:0	0.08–0.12
18:0	9.6–10
9c-18:1	27.3–28.1
11c-18:1	0.3–0.5
Undefined 18:2	34.3–34.9
20:0	2.1–2.3
Total 20:1	2–2.2

Tocopherol Composition, mg/kg

α -Tocopherol	14–16
β -Tocopherol	15–17
γ -Tocopherol	456–462
δ -Tocopherol	7–9
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	1–3
β -Tocotrienol	
γ -Tocotrienol	6–12
δ -Tocotrienol	2–6
Total Tocotrienols, mg/kg	

- References** *Grasas y Aceites* 59: 321–326 (2008)

Oil Bean Oil

Pentaclethra macrophylla

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9073
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI (30)	1.4723

Iodine Value	86–96
Saponification Value	181–187
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.3
14:0	0–0.7
16:0	1.1–6.6
16:1	0.1
18:0	1–2.5
Total 18:1	31
9c-18:1	16.1–31.3
Undefined 18:2	36
9c,12c-18:2	38–56.6
20:0	2.4–3.7
Total 20:1	1.7
11c-20:1	1.2–2.4
22:0	4–8.5
24:0	8.8–12.2
15c-24:1	17

References *Riv. Ital. Sost. Grasse* 61: 569 (1984)

Oiticica Oil*Licania rigida*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.97
Refractive Index (RI)	
25°C	1.5121–1.5161
40°C	1.5050–1.5140
Other RI	
Iodine Value	139–185
Saponification Value	186–195
Titer °C	
% Unsaponifiable	0.5–1
Melting Point °C	15

Fatty Acid Composition (%)

16:0	6.8–7
18:0	5
Total 18:1	4–7
9c-18:1	4–6
9c,11t,13t-18:3	5

Other 4-keto-9,11,13–18:3, 70–80

References**Okra Seed Oil***Hibiscus esculentus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.916–0.919
Other SG	(25) 0.874–0.978
Refractive Index (RI)	
25°C	1.467–1.468
40°C	1.4620–1.467
Other RI	
Iodine Value	90–121
Saponification Value	170–199
Titer °C	
% Unsaponifiable	0.57–1.4
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–4
16:0	23–33.5
9c-16:1	0–1.4
17:0	0.25–0.37
18:0	0.5–1.3
Total 18:1	26–49
9c-18:1	16.1–30.13
Undefined 18:2	22–42
9c,12c-18:2	22–47.4
Undefined 18:3	0–1.7
20:0	0–1.2
11c-20:1	0–0.7
22:0	0–0.81
13c-22:1	0–0.27

Tocopherol Composition, mg/kg

α-Tocopherol	280–780
β-Tocopherol	
γ-Tocopherol	1.93–660
δ-Tocopherol	0.91–1.16
Total, mg/kg	700–1130

References *J. Am Oil Chem. Soc.* 27: 414 (1950)

J. Food Sci. Agric. 25: 401 (1974)

Pak. J. Bot. 43: 271–280 (2011)

Olive (Wild) Oil, Kandarakkara Oil

Ximenia americana

Specific Gravity (SG)	
15.5/15.5°C	0.9362
25/25°C	0.90
Other SG	(30) 0.963
Refractive Index (RI)	
25°C	1.4691–1.4731
40°C	
Other RI	
Iodine Value	77.4–95
Saponification Value	165.2–182.3
Titer °C	
% Unsaponifiable	0.5–5
Melting Point °C	

Fatty Acid Composition (%)

16:0	3.31
18:0	1–15.4
Total 18:1	61
9c-18:1	54–72.1
Undefined 18:2	7
9c,12c-18:2	1.34–10
Undefined 18:3	10.31
20:0	0–0.6
13c-22:1	3.46
26:0	15
26:1	15

References *inform 13*: 151 (2002)
S. Afr. J. Bot. 77: 920–933 (2011)

Olive Oil

Olea europaea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	

% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	7.4–14.3
9c-16:1	0.9–3
18:0	3.5–4.8
9c-18:1	63.3–81.5
9c,12c-18:2	5.1–15.5
20:0	1.2–2.6

References

Olive Oil (for quality grade reference values see IOC documentation)

Olea europaea

Specific Gravity (SG)	
15.5/15.5°C	1.468–1.471
25/25°C	
Other SG	(20/20) 0.910–0.916
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.4677–1.4710
Iodine Value	75–94
Saponification Value	184–196
Titer °C	
% Unsaponifiable	0.5–1.5
Melting Point °C	–3 to 0

Fatty Acid Composition (%)

14:0	0–0.1
16:0	7.5–20
16:1	1.2–1.4
9c-16:1	0.3–3.5
18:0	0.5–5.0
Total 18:1	55–83
9c-18:1	83.5
Undefined 18:2	9–10
9c,12c-18:2	3.5–21
Undefined 18:3	0–4
20:0	0–0.9
22:0	0–0.2
24:0	0–1.0

Sterol Composition, %

Cholesterol	0–0.5
Brassicasterol	0–0.1
Campesterol	0–4.0
Stigmasterol	0–4.0
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	75–80
D5-Avenasterol	4–14
D7-Stigmasterol	0–0.5
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	100

Tocopherol Composition, mg/kg	
α -Tocopherol	63–135
β -Tocopherol	6
γ -Tocopherol	7–15
δ -Tocopherol	
Total, mg/kg	70–150

References *J. Am Oil Chem. Soc.* 63: 328 (1986)
J. Nutr. 81: 335 (1963)
J. Chromatog. 630: 213 (1993)
 See EU, IOC and Codex recommendations
J. Am Oil Chem. Soc. 74: 375–381 (1997)

Olive Oil, Wild/Russian

Elaeagnus angustifolia

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.1
14:0	0.1
16:0	24.2
9c-16:1	2.3
18:0	1.4
9c-18:1	22.3
9c,12c-18:2	12.6
Undefined 18:3	2.3
20:0	0.7
22:0	10
24:0	22.4

References

Onion Seed Oil

Allium cepa

Specific Gravity (SG)	
15.5/15.5°C	0.9289
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4730
40°C	
Other RI	
Iodine Value	112
Saponification Value	197.5
Titer °C	
% Unsaponifiable	1.2–1.4
Melting Point °C	

Fatty Acid Composition (%)

16:0	3–7.2
18:0	1.2–1.5
Total 18:1	58
9c-18:1	33.5
9c,12c-18:2	38–58.1

References

Onosmodium Hispidissimum*Onosmodium hispidissimum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 6.5

18:0 2.5

Total 18:1 13.5

Undefined 18:2 18.2

9c,12c-18:2 18.2

Undefined 18:3 26.8

6c,9c,12c-18:3 20.1

9c,12c,15c-18:3 26.8

18:4 8.1

Total 20:1 1.8

11c-20:1 1.8

Unidentified 22:1 0.2

13c-22:1 0.2

References *J. Am Oil Chem. Soc.* 70: 629
(1993)**Orange Seed Oil***Citrus sinensis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.916–0.920

Other SG

Refractive Index (RI)

25°C 1.468–1.470

40°C 1.460–1.465

Other RI

Iodine Value 97–105

Saponification Value 186–197

Titer °C

% Unsaponifiable 0.4–1.0

Melting Point °C

Fatty Acid Composition (%)

14:0 1

16:0 21–29

9c-16:1 1

18:0 4–8

Total 18:1 20–37

9c,12c-18:2 36–38

Undefined 18:3 1–7

20:0 0.2

Sterol Composition, %

Cholesterol 0.2

Brassicasterol

Campesterol 8

Stigmasterol 3

Stigmasta-8,22-dien-3 β -ol5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

 β -Sitosterol 88

D5-Avenasterol 0.2

D7-Stigmasterol

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

References *Riv. Ital Sost. Grasse* 66: 99
(1989)*Food Chem.* 47: 77 (1993)*Grasas y Acietes* 39: 232 (1988)**Otoba Butter (American
Nutmeg Butter)***Viola otoba*

Specific Gravity (SG)

15.5/15.5°C

25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.471
Other RI	
Iodine Value	54
Saponification Value	185
Titer °C	
% Unsaponifiable	20
Melting Point °C	34

Fatty Acid Composition (%)

12:0	21–21.1
14:0	73–73.1
16:0	0.3
Total 18:1	6
9c-18:1	5.5

References**Ouricuri Tallow**

*Syagrus coronata/Orbignya
cohune*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.9221
Other SG	
Refractive Index (RI)	
25°C	1.4543
40°C	
Other RI	
Iodine Value	15
Saponification Value	257
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

8:0	10
10:0	9
12:0	46
14:0	9
16:0	8
18:0	2
Total 18:1	13
9c,12c-18:2	3

References**Palas Oil**

Butea frondosa/B. monosperma

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(30/30) 0.9076
Refractive Index (RI)	
25°C	
40°C	
Other RI	(30) 1.4791
Iodine Value	85
Saponification Value	185
Titer °C	
% Unsaponifiable	1–2
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.2
16:0	19.3–28
18:0	5.5–9
Total 18:1	28–31
9c-18:1	21.8–30.5
Undefined 18:2	16–26
9c,12c-18:2	26–35
Undefined 18:3	0–1.7
20:0	0–6
Total 20:1	2–3
22:0	4.8–14
24:0	0–10

References *inform 13*: 151 (2002)

Palm Kernel Oil

Acrocomia lasiospatha

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	

Titer °C	
% Unsaponifiable	0.7
Melting Point °C	

Fatty Acid Composition (%)

6:0	0.9
8:0	6.4
10:0	5.9
12:0	38.5
14:0	10.7
16:0	7.4
9c-16:1	tr
18:0	4.1
9c-18:1	21.3
9c,12c-18:2	2.9
Undefined 18:3	1.9

References *J. Am Oil Chem. Soc.* 80: 49–53 (2003)

Palm Kernel Oil*Aiphanes acanthophylla*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0	tr
10:0	tr
12:0	41–42
14:0	20–21
16:0	10–11
18:0	3–4
Total 18:1	15–16
9c,12c-18:2	7–8

References *J. Am Oil Chem. Soc.* 56: 528 (1979)

Palm Kernel Oil*Astrocaryum vulgare*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

6:0	tr
8:0	tr
10:0	tr
12:0	43.5
14:0	28.6
16:0	7.5
9c-18:1	13.6
9c,12c-18:2	3.3

References *J. Am Oil Chem. Soc.* 80: 49–53 (2003)

Palm Kernel Oil*Bactris gasipaes*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

6:0	tr
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8:0	tr
10:0	tr
12:0	60.6
14:0	18.9
16:0	6
18:0	tr
9c-18:1	12.9
9c,12c-18:2	tr

References *J. Am Oil Chem. Soc.* 80: 49–53 (2003)

Palm Kernel Oil

Buttia capitata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0	16
10:0	16
12:0	40
14:0	6–7
16:0	4–5
18:0	3
Total 18:1	12
9c,12c-18:2	3–4

References *J. Am Oil Chem. Soc.* 56: 528 (1979)

Palm Kernel Oil

Elaeis guineensis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG . . . (40/20) 0.899–0.914, (20/4) 0.920–0.945

Refractive Index (RI)

25°C

40°C 1.448–1.452

Other RI

Iodine Value 14–24

Saponification Value 230–257

Titer °C

% Unsaponifiable 0–1

Melting Point °C 24–30

Solidification Point °C 19–24

Fatty Acid Composition (%)

6:0	0–2
8:0	1.9–6.2
10:0	2.6–6
12:0	40–55
14:0	12–18
16:0	6.5–10.3
18:0	1.3–4
Total 18:1	11.4–21
9c-18:1	13.2–16.4
9c,12c-18:2	1–3.5
Undefined 18:3	0–0.7
20:0	0–0.3
Total 20:1	0–0.5

Sterol Composition, %

Cholesterol	0.6–3.7
Brassicasterol	0–0.8
Campesterol	8.4–12.7
Stigmasterol	12.0–16.6
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	62.6–73.1
D5-Avenasterol	1.4–9.0
D7-Stigmasterol	0–2.1
D7-Avenasterol	0–1.4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–2.7
% sterols in oil	
Total Sterols, mg/kg	790–1410

Tocopherol Composition, mg/kg	
α-Tocopherol	0–40
β-Tocopherol	0–250
γ-Tocopherol	0–260
δ-Tocopherol	
Total, mg/kg	0–260

Tocotrienols Composition, mg/kg	
α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	0–60
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *Codex 1997/17*

Palm Kernel Oil

Elaeis guineensis dura

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0	6.1
10:0	4.9
12:0	58.2
14:0	14.7
16:0	5.6
18:0	1.2
9c-18:1	8.2
9c,12c-18:2	0.8

References

Palm Kernel Oil

Elaeis oleifera

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 28–35

Saponification Value

Titer °C

% Unsaponifiable 0.5

Melting Point °C

Fatty Acid Composition (%)

6:0	.tr-0.1
8:0	.tr-0.9
10:0	.tr-0.8
12:0	29–35.6
14:0	25.6–26
16:0	9.7–10
18:0	1.6–2
Total 18:1	21.1–26
9c,12c-18:2	4–5.4
Other	0.4

References *J. Am Oil Chem. Soc.* 74: 1451 (1997)

J. Sci. Food Agric. 33: 204 (1982)

Palm Oil Developments 27: (1997)

PORIM

J. Am Oil Chem. Soc. 80: 49–53 (2003)

Palm Kernel Oil

Maximilana maripa

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	0.6
Melting Point °C	

Fatty Acid Composition (%)

6:0	tr
8:0	3.8
10:0	4
12:0	40.5
14:0	25.5
16:0	9
9c-16:1	tr
18:0	2.4
9c-18:1	10.8
9c,12c-18:2	2.4

References *J. Am Oil Chem. Soc.* 80: 49–53 (2003)

Palm Oil*Elaeis guineensis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG . . . (50/20)	0.891–0.899, (20/4)
	0.920–0.927
Refractive Index (RI)	
25°C	
40°C	1.4531–1.4595
Other RI	(50) 1.449–1.455
Iodine Value	45–56
Saponification Value	190–209
Titer °C	
% Unsaponifiable	0–1.2
Melting Point °C	27–42.5
Solidification Point °C	31–41

Fatty Acid Composition (%)

12:0	0–0.4
14:0	0.5–6
16:0	37–48
9c-16:1	0–0.6
18:0	2–6.5
Total 18:1	36–44

9c-18:1	38.4–45
9c,12c-18:2	6–12.0
Undefined 18:3	0–0.5
20:0	0–1
Total 20:1	0–0.2
22:0	0–0.1
24:0	0–0.2

Sterol Composition, %

Cholesterol	2.6–6.7
Brassicasterol	
Campesterol	18.7–27.5
Stigmasterol	8.5–13.9
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	50.2–62.1
D5-Avenasterol	0–2.8
D7-Stigmasterol	0.2–2.4
D7-Avenasterol	0–5.1
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	362–627

Tocopherol Composition, mg/kg

α-Tocopherol	4–193
β-Tocopherol	0–234
γ-Tocopherol	0–526
δ-Tocopherol	0–123
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	4–336
β-Tocotrienol	
γ-Tocotrienol	14–710
δ-Tocotrienol	0–377
Total Tocotrienols, mg/kg	98–1500

References *Codex 97/17*

- J. Am Oil Chem. Soc.* 74: 1451 (1997)
Palm Oil Developments 27: (1997)
 PORIM

Palm Oil*Elaeis guineensis dura*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0 0–0.1

14:0 1.8–4.2

16:0 45.3–55

18:0 2.5–5.6

Total 18:1 30

9c-18:1 30.2

9c,12c-18:2 10–10.4

Undefined 18:3 0.4–0.7

20:0 0.1

Sterol Composition, %

Cholesterol 6

Brassicasterol

Campesterol 25

Stigmasterol 14

Stigmasta-8,22-dien-3β-ol

5α-Stigmasta-7,22-dien-3β-ol

D7,25-Stigmastadienol

β-Sitosterol 55

D5-Avenasterol

D7-Stigmasterol

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg 2000–2500

Tocopherol Composition, mg/kg

α-Tocopherol 310

β-Tocopherol

γ-Tocopherol

δ-Tocopherol

Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol 210

β-Tocotrienol

γ-Tocotrienol 400

δ-Tocotrienol 80

Total Tocotrienols, mg/kg

References *Palm Oil Developments* 27:

(1997) PORIM

Palm Oil*Elaeis oleifera/E. melanococca*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 61–64

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0.2

16:0 19

9c-16:1 1–2

18:0 1

Total 18:1 56

9c,12c-18:2 21

Other 1

Sterol Composition, %

Cholesterol 2

Brassicasterol

Campesterol 19

Stigmasterol 15

Stigmasta-8,22-dien-3β-ol

5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	64
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	3500–4000

Tocopherol Composition, mg/kg	
α -Tocopherol	150
β -Tocopherol	
γ -Tocopherol	
δ -Tocopherol	
Total, mg/kg	

Tocotrienols Composition, mg/kg	
α -Tocotrienol	270
β -Tocotrienol	
γ -Tocotrienol	540
δ -Tocotrienol	40
Total Tocotrienols, mg/kg	700–1500

References *J. Am Oil Chem. Soc.* 74: 1451 (1997)
J. Sci. Food Agric. 33: 204 (1982)
Palm Oil Developments 27: (1997)
 PORIM

Palm Olein

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG(40/20)	0.899–0.920
Refractive Index (RI)	
25°C	
40°C	1.4586–1.4592
Other RI	
Iodine Value	> 56

Saponification Value	194–202
Titer °C	
% Unsaponifiable	0–1.3
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.1–0.5
14:0	0.9–1.4
16:0	38.2–42.9
9c-16:1	0.1–0.3
18:0	3.7–4.8
Total 18:1	39.8–43.9
9c,12c-18:2	10.4–13.4
Undefined 18:3	0.1–0.6
20:0	0.2–0.6

References

Codex 97/17

Palm Stearin

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG(60/20)	0.881–0.891
Refractive Index (RI)	
25°C	
40°C	1.4472–1.4511
Other RI	
Iodine Value	< 48
Saponification Value	193–205
Titer °C	
% Unsaponifiable	0–0.9
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.1–0.4
14:0	1.1–1.8
16:0	48.4–73.8
9c-16:1	0.05–0.2
18:0	3.9–5.6
Total 18:1	15.6–36.0
9c,12c-18:2	3.2–9.8
Undefined 18:3	0.1–0.6
20:0	0.3–0.6

References

Codex 97/17

Papaya Seed Oil

Carica papaya

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.9074
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.466–1.4679
Iodine Value	65–73
Saponification Value	185–199
Titer °C	
% Unsaponifiable	1–3
Melting Point °C	

Fatty Acid Composition (%)

8:0	0–0.3
10:0	0–0.6
12:0	0.1–1.2
14:0	0–1.0
16:0	11.94–18
9c-16:1	0.5–1.3
18:0	3–6
Total 18:1	63–77
9c-18:1	69.3–71.4
9c,12c-18:2	0.4–1.0
Undefined 18:3	0.4–0.5
20:0	0–0.8
11c-20:1	0–1
22:0	0–5.4

Sterol Composition, %

Cholesterol	3
Brassicasterol	
Campesterol	9–11
Stigmasterol	6–7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	69–72
D5-Avenasterol	6–7
D7-Stigmasterol	1–2
D7-Avenasterol	0.5–1
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	

Squalene

24-Methylene Cholesterol	1–2
Other	Fucosterol, 0.8
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	85.5
β -Tocopherol	7.5
γ -Tocopherol	7.5
δ -Tocopherol	7.0
Total, mg/kg	

References

- Riv. Ital. Sost. Grasse* 67: 257 (1990)
Riv. Ital. Sost. Grasse 54: 429 (1990)
Riv. Ital. Sost. Grasse 58: 324 (1981)
J. Food Sci. 43: 255 (1978)
Pakistan J. Sci. Ind. Res. 35: 43 (1992)

Parkia Biglandulosa Seed Fat

Parkia biglandulosa

Specific Gravity (SG)	
15.5/15.5°C	0.9208
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(21) 1.4701
Iodine Value	81
Saponification Value	190
Titer °C	
% Unsaponifiable	1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.2
15:0	0–0.8
16:0	25.6–26.2
9c-16:1	7
18:0	32.7–33.8
Total 18:1	25.4–27
9c-18:1	26.8
Undefined 18:2	3.1
9c,12c-18:2	2.9–3
20:0	3.7–4

References *J. Am Oil Chem. Soc.* 61: 1023 (1984)
Int. J Food Sci. Nutr. 52: 337–341 (2001)

Parsley Seed Oil

Petroselinum sativum

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.4778–1.4800
 Other RI
 Iodine Value 109–120
 Saponification Value 170–177
 Titer °C
 % Unsaponifiable 2–2.2
 Melting Point °C –15

Fatty Acid Composition (%)

16:0 2–3.7
 9c-16:1 0–0.4
 18:0 0.5–1
 Total 18:1 12–15
 9c-18:1 2.5–15
 6c-18:1 69–79.6
 9c,12c-18:2 6–14
 Undefined 18:3 0–0.4
 11c-20:1 0–0.3
 13c-22:1 0–0.1

References

Parsnip Oil

Pastinaca sativa

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value

Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 4–5.8
 18:0 1–1.2
 9c-18:1 11.2–15.8
 6c-18:1 57.4–60.1
 11c-18:1 0–1.2
 9c,12c-18:2 20.5–21.8
 Undefined 18:3 0–0.5
 20:0 0–0.5
 11c-20:1 0–0.4

References

Passion Fruit Seed Oil

Passiflora edulis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 8
 18:0 2.2
 9c-18:1 12.6
 9c,12c-18:2 77.2

References

Pataua Palm Oil (Pulp)/ (Seje Oil)

Jessenia bataua

Specific Gravity (SG)
 15.5/15.5°C 0.924

25/25°C	0.911–0.918
Other SG	
Refractive Index (RI)	
25°C	1.468–1.470
40°C	
Other RI	
Iodine Value	75–80
Saponification Value	190–196
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	9
18:0	6
Total 18:1	81
9c,12c-18:2	4

References**Paullinia Elegans Seed Oil**

Sapindaceae (Soapberry Family)

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****Melting Point °C****Fatty Acid Composition (%)**

16:0	2.2
9c-16:1	3.4
11c-16:1	0.2
18:0	1.7
9c-18:1	12.2
11c-18:1	19.8
Undefined 18:2	3.1
Undefined 18:3	1.8
20:0	5

Total 20:1	4
11c-20:1	4
13c-20:1	44
15c-20:1	0.7
22:0	0.3
Unidentified 22:1	0.4
13c-22:1	0.4
15c-22:1	0.8

References *J. High Resol. Chromatogr.* 18: 443 (1995)

Peach Kernel (Pit) Oil

Prunus persica

Specific Gravity (SG)

15.5/15.5°C	0.918–0.925
25/25°C	0.913
Other SG	

Refractive Index (RI)

25°C	1.468–1.470
40°C	1.459–1.465
Other RI	

Iodine Value**Saponification Value****Titer °C****% Unsaponifiable****% Sterols in Crude Oil****Melting Point °C****Fatty Acid Composition (%)**

14:0	0.2–1
16:0	3.4–8.8
16:1	0.4
9c-16:1	0.1–0.5
18:0	0.5–6
Total 18:1	30.2–70
9c-18:1	55.1–74.8
Undefined 18:2	15–63.7
9c,12c-18:2	15–36.5
Undefined 18:3	0–0.2
20:0	0.3–0.6

Sterol Composition, %

Cholesterol	0.2
Brassicasterol	
Campesterol	4–8
Stigmasterol	1–6
Stigmasta-8,22-dien-3 β -ol	

5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	64–90
D5-Avenasterol	2–10
D7-Stigmasterol	1–2
D7-Avenasterol	2
D7-Campesterol	2
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg	
α -Tocopherol	74
β -Tocopherol	15
γ -Tocopherol	11
δ -Tocopherol	0
Total, mg/kg	88

- References** *J. Am Oil Chem. Soc.* 48: 902 (1965)
Riv. Ital. Sost. Grasse 52: 82 (1975)
Lebensmittelchem. Gerichtl. Chem. 36: 53 (1982)
Food Chem. 28: 31 (1988)
Rev. Franc. Corps Gras 33: 115 (1986)
Riv. Ital. Sostanze Grasse 75: 405 (1998)
J. Am Oil Chem. Soc. 69: 492–494 (1992)
Chem. Nat. Compd. 38: 5 (2002)

Peanut (Groundnut) Oil

Arachis hypogaea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.910–0.915
Other SG	(20/20) 0.914–0.917
Refractive Index (RI)	
25°C	
40°C	1.460–1.465
Other RI	(20) 1.468–1.472, (15) 1.4577–1.4580
Iodine Value	73–107

Saponification Value	184–196
Titer °C	
% Unsaponifiable	< 10
Melting Point °C	–5 to –2
Ignition Point °C	283
Flash Point °C	443

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–0.1
16:0	8.3–16.1
16:1	0–0.2
9c-16:1	0–0.2
17:0	0–0.1
8a,10t-17:2	0–0.1
18:0	1.9–4.4
Total 18:1	36.4–67.1
9c-18:1	32.2–58.7
Undefined 18:2	14–43
9c,12c-18:2	14.0–43.0
Undefined 18:3	0.0–0.9
20:0	1.1–2.5
Total 20:1	0.7–1.7
11c-20:1	0.8–1.1
20:2	0–0.1
22:0	1.9–4.4
Unidentified 22:1	0–0.3
13c-22:1	0–0.1
24:0	0–3.4
15c-24:1	0–0.3

Sterol Composition, %

Cholesterol	0–3.8
Brassicasterol	0–0.2
Campesterol	12.0–19.8
Stigmasterol	5.4–13.2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	47.4–67.7
D5-Avenasterol	8.3–18.8
D7-Stigmasterol	0–5.1
D7-Avenasterol	0.0–5.5
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	

Other	0.0–1.4
% sterols in oil	
Total Sterols, mg/kg	901–2854

Tocopherol Composition, mg/kg	
α -Tocopherol	49–373
β -Tocopherol	0–41
γ -Tocopherol	88–389
δ -Tocopherol	0–22
Total, mg/kg	176–1291

References *Codex* 1993/16
J. Am Oil Chem. Soc. 64: 534 (1987)

Peanut Oil (High Oleic)

Arachis hypogaea

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)	
16:0	7
18:0	3
Total 18:1	76
9c,12c-18:2	4
19:0	1
20:0	1
Total 20:1	2
22:0	4
24:0	2

References *J. Anim. Sci.* 70: 3734 (1992)

Pear Seed Oil

Pyrus communis

Specific Gravity (SG)	
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15.5/15.5°C	0.9168
25/25°C	

Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI(20)	1.4735
Iodine Value	109
Saponification Value	180
Titer °C	
% Unsaponifiable	1.7
Melting Point °C	

Fatty Acid Composition (%)

References

Pear Seed Oil

Pyrus domestica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG(20/20)	0.912

Refractive Index (RI)	
25°C	
40°C	1.465–1.468
Other RI	

Iodine Value	121–127
Saponification Value	189–197
Titer °C	
% Unsaponifiable	0.5–1.1
Melting Point °C	
% Sterols in Crude Oil	0.4

Fatty Acid Composition (%)

14:0	0.2
16:0	6.388–10
16:1	0.119–1
18:0	1–1.746
Total 18:1	19–20.281
Undefined 18:2	56.801–69
Undefined 18:3	0.32–0.4
20:0	1.251
Total 20:1	0.275
20:2	0.05
22:0	0.238
24:0	0.109

Sterol Composition, %

Cholesterol	0.9
Brassicasterol	0.1
Campesterol	2.5
Stigmasterol	5.6
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	86
D5-Avenasterol	0.4
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	0.4
D7-Ergosterol	
D7,25-Stigmasterol	3
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 75: 405 (1998)
Int. J. Food Prop. 12: 774–779 (2009)

Pecan Nut Oil

Carya illinoensis/
C. olivaeformis

Specific Gravity (SG)

15.5/15.5°C	0.917
25/25°C	0.912–0.915
Other SG	

Refractive Index (RI)

25°C	1.469–1.470
40°C	
Other RI	(20) 1.470

Iodine Value 97–107

Saponification Value 189–198

Titer °C

% Unsaponifiable 0.4–1.5

Melting Point °C

Fatty Acid Composition (%)

16:0	3.3–11.3
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9c-16:1	0.1–0.2
18:0	0.9–6
Total 18:1	49–69
9c-18:1	48.7–77.8
9c,12c-18:2	15.8–40
Undefined 18:3	0–3
20:0	0.1–0.2
Total 20:1	0.2–0.3
22:0	0.1–0.2

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	3.5–4.5
Stigmasterol	1–2
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	81–93
D5-Avenasterol	1–8
D7-Stigmasterol	0.2–0.6
D7-Avenasterol	0.2–0.4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	1000–2900

Tocopherol Composition, mg/kg

α -Tocopherol	50–370
β -Tocopherol	
γ -Tocopherol	20–182.81
δ -Tocopherol	0–79
Total, mg/kg	88–420

References *J. Am Oil Chem. Soc.* 45: 437

(1968)
J. Am Oil Chem. Soc. 27: 414 (1950)
J. Am. Dietetic Assn. 73: 39 (1978)
Riv. Ital. Sost. Grasse 73: 29 (1996)
J. Am Oil Chem. Soc. 76: 957–965 (1999)

Perilla Oil*Perilla frutescens*

Specific Gravity (SG)	
15.5/15.5°C	0.930–0.937
25/25°C	0.923–0.930
Other SG	(15/4) 0.927–0.933
Refractive Index (RI)	
25°C	1.476–1.478
40°C	1.470–1.477
Other RI	(15) 1.4825–1.4840
Iodine Value	192–208
Saponification Value	187–197
Titer °C	
% Unsaponifiable	0.4–1.5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	5.7–8.92
16:1	tr
9c-16:1	0.11–0.2
18:0	1–3.8
Total 18:1	13–15
9c-18:1	11.41–18.7
7c-18:1	0.97
Undefined 18:2	15.5
9c,12c-18:2	13.2–18.7
Undefined 18:3	44–64.5
9c,12c,15c-18:3	59.37
20:0	0.17–0.5
11c-20:1	0.13
22:0	0.04
13c-22:1	0–0.1
22:2	0.04
Other	0–1.2

Tocopherol Composition, mg/kg

α-Tocopherol	10–57
β-Tocopherol	37
γ-Tocopherol	526–538
δ-Tocopherol	31–40
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 36: 477

- (1959)
J. Am Oil Chem. Soc. 71: 619 (1994)
J. Am Oil Chem. Soc. 74: 375–380 (1997)
J. Am Oil Chem. Soc. 80: 1013–1020
 (2003)

J. Am Oil Chem. Soc. 68: 781–783 (1991)

Phulwara Butter*Madhuca butyraceae*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(100/15) 0.856–0.870
Refractive Index (RI)	
25°C	
40°C	1.455–1.461
Other RI	
Iodine Value	40–51
Saponification Value	188–200
Titer °C	
% Unsaponifiable	1.4–5
Melting Point °C	39–47
Solidification Point °C	48–52

Fatty Acid Composition (%)

16:0	54–65.6
18:0	3–5.2
Total 18:1	30–36
9c-18:1	27.4–46
Undefined 18:2	4–5
9c,12c-18:2	3–4

References *J. Am Oil Chem. Soc.* 55: 621
 (1978)
inform 13: 151 (2002)

Physic Nut Oil (Ratanjyor Oil)*Jatropha curcas*

Specific Gravity (SG)	
15.5/15.5°C	0.918–0.923
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.462–1.465
Other RI	(30) 1.47
Iodine Value	93–107
Saponification Value	188–196
Titer °C	
% Unsaponifiable	0.4–1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.5
16:0	4–28.4
9c-16:1	0–1.5
18:0	3.9–10
Total 18:1	37–63
9c-18:1	23–39.1
Undefined 18:2	19–41
9c,12c-18:2	30.1–59
Undefined 18:3	0.4–0.7
20:0	0–0.2
Other	1.4

References *inform 13*: 151 (2002)

Pili Nut Oil*Canarium ovatum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0	0–0.3
10:0	0–0.2
12:0	0–1.9
14:0	0–1
16:0	26.46–38.2
16:1	0.30
17:0	0–0.2
18:0	1.8–10.9
Total 18:1	44.7–56.55
9c-18:1	44.4–59.6
Undefined 18:2	10.09–10.1
9c,12c-18:2	0–9.7
Undefined 18:3	0–0.7
20:0	0–0.24
11c-20:1	0–0.2
24:0	0–1

References *J. Am Oil Chem. Soc.* 77:

991–996 (2000)

J. Am Oil Chem. Soc. 75: 807–811 (1998)

Pimpinella Acuminata Seed Oil*Pimpinella acuminata*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	6
16:0	17
18:0	6
Total 18:1	47
9c,12c-18:2	14
Undefined 18:3	10

References *Fat Sci. Technol.* 97: 455 (1995)

Pindo Palm Kernel Oil*Anecastrum romanzoffianum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 14

Saponification Value 237

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0	1–2
10:0	2
12:0	56–58
14:0	20–22
16:0	6–7
18:0	2–3
Total 18:1	8–10
9c,12c-18:2	1–2

References *J. Am Oil Chem. Soc.* 56: 528 (1979)

Food Chem. 28: 177 (1988)

Pine Needle Oil*Pinus sylvestris*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.478

40°C

Other RI

Iodine Value 184

Saponification Value 194

Titer °C

% Unsaponifiable 1.2

Melting Point °C -30 to -27

Fatty Acid Composition (%)

16:0	4.3
18:0	3.1
9c-18:1	9.5
9c,12c-18:2	57.9
Undefined 18:3	25.4

References**Pine Nut Oil***Pinus banksiana spp.*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	3.2–5.8
16:1	0.13
9c-16:1	0.1–0.2
17:0	0–0.17
18:0	1.5–2.7
9c-18:1	15.4–20.3
11c-18:1	0–1.7
5,9–18:2	2.37
9c,12c-18:2	43.4–52.2
9c,12c,15c-18:3	0.3–1.4
5c,9c,12c-18:3	7.9–22.9
5,9c,12c,15c-18:4	0–0.07
20:0	0.2–0.6
Total 20:1	0.7–1.2
11c-20:1	0.95
20:2	0.29–0.9
5,11c,14c-20:3	2.87
8c,11c,14c-20:3	0.2–0.7
22:0	tr-0.2
Other	5c,9c-18:2, 0.9–3.2; 5c,9c,12c,15c-18:4, tr-0.1; 5c,11c-20:2, 0.2–0.9; 5c,11c,14c-20:3, 1.8–7.0

References *J. Am Oil Chem. Soc.* 75: 45 (1998)

Lipids 35: 1 (2000)

Pine Nut Oil*Pinus cembroides edulis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	7.1
9c-16:1	0.2
17:0	0–0.03
18:0	2.3
9c-18:1	46.9
11c-18:1	0–0.6
9c,12c-18:2	40.7
9c,12c,15c-18:3	0–0.2
5c,9c,12c-18:3	0–0.4
20:0	0.5
Total 20:1	0.5
20:2	0.2
Other	5c,9c-18:2, 0.1; 5c,9c,12c-20:3, 0.3

References *J. Am Oil Chem. Soc.* 74: 613 (1997)

Pine Nut Oil

Pinus halepensis spp.

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	4.0–4.7
16:1	0–0.09
9c-16:1	0.1
17:0	0–0.06

18:0	3.3–3.7
9c-18:1	18.8–23.7
11c-18:1	0–0.4
5,9-18:2	0.95
9c,12a-18:2	55.49
9c,12c-18:2	55.5–60.5
9c,12c,15c-18:3	0.69–0.7
5c,9c,12c-18:3	3.1–4.4
5,9c,12c,15c-18:4	0–0.02
20:0	0.5
Total 20:1	0.5–0.9
11c-20:1	0.53
20:2	0.5–1.1
5,11c,14c-20:3	3.6
8c,11c,14c-20:3	tr-0.04
22:0	tr-0.12
Other	5c,9c-18:2, 0.5–1.0; 5c,9c,12c,15c-18:4, 0–0.02; 5c,11c-20:2, 0.4–0.5; 5c,11c,14c-20:3, 3.6–5.4

References *J. Am Oil Chem. Soc.* 75: 45 (1998)
Lipids 35: 1 (2000)

Pine Nut Oil

Pinus monophylla

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C 1.4698
 40°C
 Other RI
 Iodine Value 102
 Saponification Value 184–189
 Titer °C
 % Unsaponifiable 2
 Melting Point °C

Fatty Acid Composition (%)

14:0	5
16:0	3–6.92
16:1	0.11
17:0	0–0.3

18:0	0.4–3.25
Total 18:1	58–62
9c-18:1	46.13
11c-18:1	0.42
5,9–18:2	0–0.3
9c,12c-18:2	30–41.4
Undefined 18:3	0–0.18
5c,9c,12c-18:3	0–0.13
20:0	0–0.37
11c-20:1	0–0.47
20:2	0–0.23
5,11c,14c-20:3	0–0.34
22:0	0–0.02

References *Lipids* 35: 1 (2000)

Pine Nut Oil

Pinus pinaster

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	3.6–4.0
16:1	0.24
9c-16:1	0.1–0.24
17:0	0–0.05
18:0	2–2.4
Total 18:1	18
9c-18:1	17.87
11c-18:1	0–0.22
5,9–18:2	0.74
9c,12c-18:2	56
Undefined 18:3	1–1.3
9c,12c,15c-18:3	0–0.69
5c,9c,12c-18:3	0–7.1
20:0	0.3

Total 20:1	1.0
11c-20:1	0.53
20:2	0.51–0.53
5,11c,14c-20:3	3.6
22:0	0.12
Other	5c,9c-18:2, 0.7; 11c,14c-20:2, 0.8; 5c,11c,14c-20:3, 7.1

References *inform* 8: 116 (1997)

Lipids 35: 1 (2000)

Pine Nut Oil

Pinus pinea

Specific Gravity (SG)

15.5/15.5°C 0.9199–0.9320

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.467–1.485

Other RI

Iodine Value 118–125

Saponification Value 192–198

Titer °C

% Unsaponifiable 0.5–2.0

Melting Point °C

Solidification Point °C –27 to –21

Fatty Acid Composition (%)

16:0	5.4–8
9c-16:1	0.1–0.4
18:0	0.6–4.3
Total 18:1	36–39
9c-18:1	36.3–48
9c,12c-18:2	47–51
Undefined 18:3	0.6–1.5
9c,12c,15c-18:3	0–0.6
5c,9c,12c-18:3	0–0.4
20:0	0.5–1.5
Total 20:1	0.7
20:2	0.5
Other	5c,11c-20:2, 0.1; 11c,14c-20:2, 0.5; 5c,11c,14c-20:3, 2.5

References *J. Am Oil Chem. Soc.* 72: 1043

(1995)

inform 8: 116 (1997)

Pine Nut Oil*Pinus ponderosa* spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 3.4–5.0

16:1 0–0.09

9c-16:1 0.1

17:0 0–0.03

18:0 1.5–2.2

9c-18:1 16.7–30.9

11c-18:1 0–0.5

5,9-18:2 2.92

9c,12c-18:2 42.6–48.6

9c,12c,15c-18:3 0.5–0.6

5c,9c,12c-18:3 11.3–18.4

5,9c,12c,15c-18:4 0–0.07

20:0 0.4–0.5

Total 20:1 0.9–1.2

11c-20:1 0.89

20:2 0.26–0.8

5,11c,14c-20:3 1.62

8c,11c,14c-20:3 tr-0.2

22:0 tr-0.2

Other 5c,9c-18:2, 2.3–3.9;

5c,9c,12c,15c-18:4, 0.1; 5c,11c-20:2,

0.3–0.4; 5c,11c,14c-20:3, 1.4–3.8

References *J. Am Oil Chem. Soc.* 75: 45

(1998)

Lipids 35: 1 (2000)**Piper Nigrum (Pepper)
Seed Oil***Piper nigrum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (16) 1.4735

Iodine Value 66–129

Saponification Value 185–203

Titer °C

% Unsaponifiable 1.8–2.7

Melting Point °C

Solidification Point °C 12

Fatty Acid Composition (%)

10:0 4

12:0 2.5

14:0 3

16:0 27

18:0 7

Total 18:1 30

9c,12c-18:2 7–8

Other Malvalic, 6; sterculic, 4;
vernolic, 8**References** *Fat Sci. Technol.* 97: 453 (1995)**Piqui Oil***Caryocar villosum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	1.4
16:0	48.4
18:0	0.9
9c-18:1	46
9c,12c-18:2	3.3

References

Pisa Oil

Actinodaphne hookeri

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (25/4) 0.925

Refractive Index (RI)

25°C

40°C

Other RI (30) 1.4490

Iodine Value 11

Saponification Value 256

Titer °C

% Unsaponifiable

Melting Point °C 43–44

Fatty Acid Composition (%)

12:0	88–98
14:0	2–3
16:0	0.5–1.0
Total 18:1	2–5
9c-18:1	4

References

Pistachio Nut Oil

Pistacia vera

Specific Gravity (SG)

15.5/15.5°C 0.915–0.920

25/25°C

Other SG (15/4) 0.914–0.920

Refractive Index (RI)

25°C 1.467–1.470

40°C 1.460–1.466

Other RI (20) 1.4729

Iodine Value 84–98

Saponification Value 187–196

Titer °C

% Unsaponifiable 0.5–3

Melting Point °C 5

Solidification Point °C –11 to –5, 13–16

Fatty Acid Composition (%)

14:0	0–0.6
16:0	8–13
9c-16:1	0.5–1.4
18:0	0.5–2.0
Total 18:1	56–70
9c-18:1	61.7–69.6
9c,12c-18:2	17–31
Undefined 18:3	0.1–0.4
20:0	0–0.3
Total 20:1	0.6
11c-20:1	0–0.4

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol 5

Stigmasterol 2

Stigmasta-8,22-dien-3 β -ol

5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

β -Sitosterol 77

D5-Avenasterol 7

D7-Stigmasterol 1

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg 2010

References *J. Am Oil Chem. Soc.* 52: 512 (1975)

J. Am. Dietetic Assn. 73: 39 (1978)

J. Food Technol. 13: 355 (1978)

Pistacia Atlantica Fruit Oil*Pistacia atlantica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	88
Saponification Value	199
Titer °C	
% Unsaponifiable	0.5
Melting Point °C	

Fatty Acid Composition (%)

16:0	12.2–24
16:1	1.2
9c-16:1	1.5–2
18:0	1.8–2.5
Total 18:1	46
9c-18:1	50.4–57
Undefined 18:2	27.4
9c,12c-18:2	25.8–32.8
Undefined 18:3	0.4–0.5

Sterol Composition, %

Cholesterol	1.5
Brassicasterol	
Campesterol	4.3
Stigmasterol	
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	87
D5-Avenasterol	4
D7-Stigmasterol	
D7-Avenasterol	3.2
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *J. Am Oil Chem. Soc.* 79:
1049–1050 (2002)

Plum Kernel Oil*Prunus domestica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.911–0.916
Other SG	
Refractive Index (RI)	
25°C	1.468–1.4692
40°C	1.462–1.465
Other RI	
Iodine Value	94–110
Saponification Value	180–195
Titer °C	
% Unsaponifiable	0.4–1.1
Melting Point °C	
% Sterols in Crude Oil	0.3
Solidification Point °C	5.7–5.8

Fatty Acid Composition (%)

12:0	0.5
14:0	0.9–1.1
16:0	0.8–13
16:1	0.1–0.5
9c-16:1	0.1–0.3
18:0	1–8
Total 18:1	60.9–72
Undefined 18:2	13–31.2
9c,12c-18:2	13–30
Undefined 18:3	0–0.3
20:0	0.3

Sterol Composition, %

Cholesterol	0.6
Brassicasterol	
Campesterol	4
Stigmasterol	6
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	75
D5-Avenasterol	5
D7-Stigmasterol	5
D7-Avenasterol	3
D7-Campesterol	1
D7-Ergosterol	

D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg

References *Palm Oil Tech. Bull.* 2: 8 (1996)
Fat Sci. Technol. 89: 304 (1987)
Riv. Ital. Sost. Grasse 75: 405 (1998)
J. Am Oil Chem. Soc. 69: 492–494 (1992)
Chem. Nat. Compd. 38: 5 (2002)

Poga Oleosa Kernel Oil

Poga oleosa

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value 84–94
 Saponification Value 184–193
 Titer °C
 % Unsaponifiable 0.4
 Melting Point °C
 Solidification Point °C 22–25

Fatty Acid Composition (%)
 16:0 10.5–11
 18:0 7
 Total 18:1 70
 9c-18:1 69.5
 9c,12c-18:2 13

References *Rev. Franc. Corp Gras* 39: 147
 (1992)

Poison Hemlock Oil

Conium maculatum

Specific Gravity (SG)
 15.5/15.5°C

25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)
 16:0 4
 18:0 0.7
 9c-18:1 15.1
 6c-18:1 56.3
 9c,12c-18:2 23
 Undefined 18:3 0.1

References

Poli Oil (Wild Safflower Seed Oil)

Carthamus oxycanthus

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C 1.4729
 40°C
 Other RI
 Iodine Value 113
 Saponification Value 195
 Titer °C
 % Unsaponifiable 0.4
 Melting Point °C

Fatty Acid Composition (%)
 16:0 9
 18:0 2
 Total 18:1 17
 Undefined 18:2 71
 Undefined 18:3 6.5

References *J. Oil Technol. Assoc. India* 11: 8–10 (1970)

Pomegranate Seed Oil

Punica granatum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 5

18:0 3

9c-18:1 3

9c,12c-18:2 3

References

Poppyseed Oil

Papaver somniferum

Specific Gravity (SG)

15.5/15.5°C 0.924–0.927

25/25°C 0.918–0.920

Other SG (20/4) 0.919–0.927

Refractive Index (RI)

25°C

40°C 1.467–1.470

Other RI (20) 1.4750–1.4774

Iodine Value 132–158

Saponification Value 188–197

Titer °C

% Unsaponifiable 0.4–1.2

Melting Point °C

Solidification Point °C –27 to –17

Fatty Acid Composition (%)

14:0 0–0.7

16:0 7–11

9c-16:1 0.8–1.6

18:0 1–4

Total 18:1 16–30

9c-18:1 11.3–30

9c,12c-18:2 62–77

Undefined 18:3 0.7–5

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol 22

Stigmasterol 3

Stigmasta-8,22-dien-3β-ol

5α-Stigmasta-7,22-dien-3β-ol

D7,25-Stigmastadienol

β-Sitosterol 68

D5-Avenasterol 2

D7-Stigmasterol 2

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg

References *Lipids* 9: 921 (1974)

Prosopis Africana Seed Oil

Prosopis africana

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	9.2
9c-16:1	1.2
16:2	1.9
18:0	4.5
9c-18:1	29.4
11c-18:1	1.7
9c,12c-18:2	29.8
6c,9c,12c-18:3	0.3
9c,12c,15c-18:3	2.0
20:0	0.9
Total 20:1	0.3
22:0	0.8
24:0	0.6

References *J. Am Oil Chem. Soc.* 75: 1031
(1998)

Prune Kernel Oil*Prunus cerasifera*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C	
40°C	1.4712
Other RI	

Iodine Value 96–104

Saponification Value 210

Titer °C

% Unsaponifiable 1.4

Melting Point °C

Fatty Acid Composition (%)

16:0	4–8
9c-16:1	0–0.4
18:0	1.5–2.1
Total 18:1	61–79
9c-18:1	61.2–78.6
9c,12c-18:2	14.6–29

Tocopherol Composition, mg/kg

α-Tocopherol	85
β-Tocopherol	
γ-Tocopherol	656

δ-Tocopherol	36
Total, mg/kg	777

References *Fette Seifen Anstrichm.* 86: 160
(1984)
Rev. Franc. Corps Gras 33: 115 (1986)

**Pseudotsuga Menziesii
Seed Oil***Pseudotsuga menziesii*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
9c-14:1	tr
15:0	tr
16:0	3.5
9c-16:1	0.2
7c-16:1	0.1
17:0	0.1
18:0	1.8
9c-18:1	18.1
11c-18:1	0.8
5,9-18:2	2.8
9c,12c-18:2	44
9c,12c,15c-18:3	0.6
5,9c,12c,15c-18:4	0.1
20:0	0.6
11c-20:1	0.9
20:2	0.4
5,11c,14c-20:3	1.7
22:0	0.5
24:0	0.2
26:0	0.1

References *J. Am Oil Chem. Soc.* 75: 1761–1765 (1998)

Pterocarpus Osun Seed Oil

Pterocarpus osun

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	12.0
16:2	1.4
18:0	5.2
9c-18:1	18.3
11c-18:1	0.3
9c,12c-18:2	27.8
6c,9c,12c-18:3	0.4
9c,12c,15c-18:3	0.6
20:0	2.4
Total 20:1	1.3
22:0	10.4
24:0	2.5

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Pterocarpus Santalinoides Seed Oil

Pterocarpus santalinoides

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.2
16:0	7.0
9c-16:1	0.5
16:2	0.5
18:0	2.9
9c-18:1	5.6
11c-18:1	0.5
9c,12c-18:2	11.5
9c,12c,15c-18:3	1.3
20:0	0.6
22:0	1.1
24:0	1.3

References *J. Am Oil Chem. Soc.* 75: 1031 (1998)

Pumpkin Seed Oil

Cucurbita pepo

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG . . . (20/20) 0.903–0.926, (15/4) 0.918–0.927

Refractive Index (RI)

25°C

40°C 1.4653–1.4740

Other RI (20) 1.466–1.474

Iodine Value 103–134

Saponification Value 174–203

Titer °C

% Unsaponifiable 0.5–1.8

Melting Point °C

Solidification Point °C –16 to –15

Fatty Acid Composition (%)

14:0	0–1
16:0	7–28.5
9c-16:1	0–0.4
18:0	3–13

Total 18:1	21–47
9c-18:1	12.8–47
7c-18:1	0.50
Undefined 18:2	42.1
9c,12c-18:2	22.9–64.7
Undefined 18:3	0.2–9
9c,12c,15c-18:3	0.23
20:0	0–0.8
Total 20:1	0.1
11c-20:1	0–0.09
22:0	0–0.6
Unidentified 22:1	0–0.2
24:0	0.2–0.54
26:0	0.13

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	0.9
Stigmasterol	1–3.51
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	22
β -Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	3–4
D7-Avenasterol	10
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitosterol	
Spinasterol	27
Squalene	
24-Methylene Cholesterol	
Other	24-Methyl-cholest-7-enol, 6; D7,22,25-Stigmastatrienol, 29
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	12
β -Tocopherol	
γ -Tocopherol	285
δ -Tocopherol	4
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	
β -Tocotrienol	9
γ -Tocotrienol	5

 δ -Tocotrienol

Total Tocotrienols, mg/kg

- References** *J. Am Oil Chem. Soc.* 53: 42 (1976)
J. Am Oil Chem. Soc. 54: 525 (1977)
J. Am. Dietetic Assn. 73: 39 (1978)
Z. Lebensmittel Unters. Forsch. 203: 216 (1996)
Grasas y Aceites 48: 267–272 (1997)

Quamoclit Seed Oil*Quamoclit coccinea*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 77.7

Saponification Value 201.8

Titer °C

% Unsaponifiable 2.2–2.7

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.1

16:0 21.3–33.3

9c-16:1 0–0.3

18:0 1.7–12.6

9c-18:1 12.6–14.6

9c,12c-18:2 30.8–45.3

Undefined 18:3 0–3.1

20:0 3.5–6.8

22:0 1.2–2.6

Other Vernolic, 0–10.2

- References** *J. Am Oil Chem. Soc.* 69:
 190–191 (1992)

Quamoclit Seed Oil*Quamoclit phoenicea*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	90.3
Saponification Value	200.6
Titer °C	
% Unsaponifiable	2
Melting Point °C	

Fatty Acid Composition (%)

16:0	22.2
18:0	11.3
9c-18:1	13.5
9c,12c-18:2	40.1
20:0	3.5
22:0	3
Other	Vernolic, 6.4

References *J. Am Oil Chem. Soc.* 69: 190–191 (1992)

Quince Seed Oil*Cydonia oblonga*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.923–0.926
Refractive Index (RI)	
25°C	
40°C	1.461–1.467
Other RI	
Iodine Value	113–122
Saponification Value	186–194
Titer °C	
% Unsaponifiable	0.3–1.7
Melting Point °C	
% Sterols in Crude Oil	0.1–0.3

Fatty Acid Composition (%)

14:0	0.1
16:0	5
16:1	0.2
18:0	1
Total 18:1	41

9c-18:1	45.1
Undefined 18:2	52
9c,12c-18:2	31.6
Undefined 18:3	4.2

Sterol Composition, %

Cholesterol	0.4
Brassicasterol	0.3
Campesterol	4
Stigmasterol	5
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	88
D5-Avenasterol	1
D7-Stigmasterol	
D7-Avenasterol	0.3
D7-Campesterol	0.4
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital. Sost. Grasse* 75: 405 (1998)

Radyera Farragei Oil*Radyera farragei*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.1–0.2
16:0	10.5–13.2
16:1	0.2
9c-16:1	0.2–0.3
17:0	0–0.3
18:0	2.4–2.8
Total 18:1	15.8
9c-18:1	15.1–15.8
Undefined 18:2	68.2
9c,12c-18:2	65.8–68.2
Undefined 18:3	0–1
20:0	0.3
Other	Malvalic, 0.5–1; sterculic 0.1–0.2

References *J. Am Oil Chem. Soc.* 68:
518–519 (1991)

Ragged Mallow Seed Oil*Abutilon pannosum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 1.3

Melting Point °C

Fatty Acid Composition (%)

14:0	0.19–0.21
16:0	16.6–21.3
16:1	0.29–0.31
17:0	0.09–0.11
18:0	2.2–2.8
9c-18:1	10.6–11.7
11c-18:1	0.7–0.11
Undefined 18:2	63.8–64
9c,12c-18:2	60.7

Undefined 18:3	0.5–0.7
20:0	0.5–0.7
Total 20:1	0.09–0.11
24:0	0.19–0.21

Tocopherol Composition, mg/kg

α-Tocopherol	1252–1262
β-Tocopherol	34–36
γ-Tocopherol	286–294
δ-Tocopherol	3–5
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	5–9
β-Tocotrienol	
γ-Tocotrienol	10–14
δ-Tocotrienol	1–3
Total Tocotrienols, mg/kg	

References *Grasas y Aceites* 59: 321–326
(2008)

Rambutan Tallow*Nephelium lappaceum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (99/15.5) 0.859–0.863

Refractive Index (RI)

25°C

40°C 1.458–1.459

Other RI

Iodine Value 39–44

Saponification Value 193–195

Titer °C

% Unsaponifiable 0.5

Melting Point °C 38–42

Fatty Acid Composition (%)

16:0	2
18:0	14
Total 18:1	45
20:0	35

References

Rapeseed Oil*Brassica napus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (20/20) 0.910–0.920, (15/4)

0.913–0.916

Refractive Index (RI)

25°C

40°C 1.465–1.469

Other RI (20) 1.4720–1.4752

Iodine Value 94–120

Saponification Value 168–183

Titer °C

% Unsaponifiable 0–2

Melting Point °C

Solidification Point °C –10 to –2

Fatty Acid Composition (%)

12:0 0.1

14:0 0.1–0.2

16:0 1.5–6.3

16:1 0.2–0.3

9c-16:1 0–3

18:0 0.5–3.1

Total 18:1 8–60.1

9c-18:1 7–70

Undefined 18:2 14.6–21.4

9c,12c-18:2 10–40

Undefined 18:3 4–25

20:0 0–3

Total 20:1 3–15

11c-20:1 6.4–20

20:2 0–1

22:0 0–2

Unidentified 22:1 0–60

13c-22:1 0.5–48

22:2 0–2

24:0 0–2

15c-24:1 0–3

Sterol Composition, %

Cholesterol

Brassicasterol 12–13

Campesterol 30–33

Stigmasterol 0.4–0.6

Stigmasta-8,22-dien-3 β -ol5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

 β -Sitosterol 49–55

D5-Avenasterol 1–2

D7-Stigmasterol

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other

% sterols in oil

Total Sterols, mg/kg 881

Tocopherol Composition, mg/kg α -Tocopherol 116–180 β -Tocopherol 34 γ -Tocopherol 340–737 δ -Tocopherol 275

Total, mg/kg 1165

References *Codex* 1997/17*Riv. Ital. Sost. Grasse* 52: 79 (1975)R.G.Ackman in *Canola and Rapeseed*,F. Shahidi, ed, Van Nostrum Reinhold,
NY, 1990, p. 88*J. Am Oil Chem. Soc.* 74: 375–381 (1997)**Rapeseed Oil (Low Erucic,
Canola)***Brassica napus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (20/20) 0.914–0.920

Refractive Index (RI)

25°C

40°C 1.465–1.467

Other RI

Iodine Value 110–126

Saponification Value 182–193

Titer °C

% Unsaponifiable 0–2

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.2
16:0	3.3–6.0
9c-16:1	0.1–0.6
17:0	0.3
18:0	1.1–2.5
Total 18:1	52–67
9c,12c-18:2	16–25
Undefined 18:3	6–14
20:0	0.2–0.8
Total 20:1	0.1–3.4
20:2	0–0.1
22:0	0–0.5
Unidentified 22:1	0–4.7
22:2	0–0.1
24:0	0–0.2
15c-24:1	0–0.4
Other	17:1, 0–0.3

Sterol Composition, %

Cholesterol	0.5–1.3
Brassicasterol	5.0–13.0
Campesterol	24.7–38.6
Stigmasterol	0–0.7
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	45–58
D5-Avenasterol	3.1–6.6
D7-Stigmasterol	0–1.3
D7-Avenasterol	0–0.8
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–4.2
% sterols in oil	
Total Sterols, mg/kg	4820–11280

Tocopherol Composition, mg/kg

α -Tocopherol	100–386
β -Tocopherol	0–140
γ -Tocopherol	189–753
δ -Tocopherol	0–22
Total, mg/kg	424–2680

References *Codex* 1997/17**Rapeseed Oil (Low Linolenic, Canola)***Brassica napus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 91

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	4–5
9c-16:1	0.2
18:0	1–2
Total 18:1	59–66
9c,12c-18:2	24–29
Undefined 18:3	2–3
20:0	0.7
Total 20:1	1.2
22:0	0–0.5
Unidentified 22:1	0–0.05

References *J. Am Oil Chem. Soc.* 67: 161 (1990)*J. Am Oil Chem. Soc.* 70: 983 (1993)**Raphanus Sativus Seed Oil***Raphanus sativus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.05
16:0	4.51–7.1
9c-16:1	0–0.4
18:0	0–2
9c-18:1	16.99–40
9c,12a-18:2	13.86
9c,12c-18:2	13–16.9
Undefined 18:3	11–14.5
9c,12c,15c-18:3	8.74
20:0	0.4–2
11c-20:1	9–9.41
22:0	0.98
13c-22:1	9.6–35.69
22:2	0.35
24:0	0.87

Tocopherol Composition, mg/kg

α-Tocopherol	
β-Tocopherol	
γ-Tocopherol	516
δ-Tocopherol	21
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	3
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80:

1013–1020 (2003)

Raspberry Seed Oil

Rubus idaeus

Specific Gravity (SG)

15.5/15.5°C	0.931
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.476
40°C	
Other RI	

Iodine Value 154–175

Saponification Value 192–193

Titer °C

% Unsaponifiable 1.9–2.5

Melting Point °C

Fatty Acid Composition (%)

16:0	3
9c-18:1	9
9c,12c-18:2	55
Undefined 18:3	33

References

Ravison Oil

Brassica campestris

Specific Gravity (SG)

15.5/15.5°C	0.917–0.922
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.470–1.473
40°C	
Other RI	

Iodine Value 106–122

Saponification Value 177–183

Titer °C

% Unsaponifiable 0.8–2.2

Melting Point °C

Fatty Acid Composition (%)

14:0	0.06
16:0	3.1–4
9c-16:1	0.25
18:0	0.77–2
Total 18:1	16
9c-18:1	6.22
7c-18:1	1.12
11c-18:1	6.22
9c,12c-18:2	16.68–21
Undefined 18:3	10
9c,12c,15c-18:3	10.78
20:0	0.69–2
Total 20:1	4.1
11c-20:1	4.96
22:0	0.5–0.92
Unidentified 22:1	39
13c-22:1	44.11
22:2	2.07

24:0 0.6–0.69

Tocopherol Composition, mg/kg

α-Tocopherol 114
 β-Tocopherol
 γ-Tocopherol 445
 δ-Tocopherol 8
 Total, mg/kg

Tocotrienols Composition, mg/kg

α-Tocotrienol 5
 β-Tocotrienol
 γ-Tocotrienol
 δ-Tocotrienol
 Total Tocotrienols, mg/kg

References *J. Am Oil Chem. Soc.* 80:
 1013–1020 (2003)

Red Pepper (Paprika) Seed Oil

Capsicum annuum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (15) 1.489–1.490

Iodine Value 112–134

Saponification Value 184–190

Titer °C

% Unsaponifiable 2.2

Melting Point °C

Solidification Point °C –14

Fatty Acid Composition (%)

14:0 0.1–0.3

16:0 11.3–16.4

9c-16:1 0–0.5

17:0 0–0.2

18:0 2.1–4.4

Total 18:1 8–9

9c-18:1 10.9–14.8

Undefined 18:2 76–78

9c,12c-18:2 67.4–75.8

Undefined 18:3 0–0.3

20:0 0–0.5

22:0 0–0.2

24:0 0.2

References *Riv. Ital. Sost. Grasse* 68: 309
 (1991)
J. Am Oil Chem. Soc. 76: 1449 (1999)

Ribes Alpinum Seed Oil

Ribes alpinum

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 6

16:1 0.2

18:0 1

Epoxy 18:1 18

Undefined 18:2 39

Undefined 18:3 22

6c,9c,12c-18:3 9

18:4 4

Total 20:1 0.1

References *J. Am Oil Chem. Soc.* 60: 1858
 (1983)

Rice Bran (Germ) Oil

Oryza sativa

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.916–0.921

Other SG

Refractive Index (RI)

25°C 1.470–1.473

40°C 1.465–1.468

Other RI	
Iodine Value	89–109
Saponification Value	181–195
Titer °C	
% Unsaponifiable	1–5
Melting Point °C	

Fatty Acid Composition (%)

8:0	0–0.1
10:0	0–0.1
12:0	0–0.4
14:0	0.4–1
16:0	12–28
16:1	0–0.2
9c-16:1	0–0.5
18:0	1–4
Total 18:1	38–48
9c-18:1	31.9–50
Undefined 18:2	33.4
9c,12c-18:2	16–43.6
Undefined 18:3	0.2–3
20:0	0–0.8
Total 20:1	0.3–0.5
22:0	0.1–0.5
24:0	0–0.5

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	20–28
Stigmasterol	8–15
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	49–54
D5-Avenasterol	5–11
D7-Stigmasterol	1–2
D7-Avenasterol	2–4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	10550

Tocopherol Composition, mg/kg

α -Tocopherol	600
β -Tocopherol	
γ -Tocopherol	300
δ -Tocopherol	
Total, mg/kg	900

References *J. Am Oil Chem. Soc.* 45: 68 (1968)

- J. Am Oil Chem. Soc.* 50: 122 (1973)
J. Am Oil Chem. Soc. 27: 414 (1950)
J. Am. Dietetic Assn. 73: 39 (1978)

Ricinodendron Heudelotii Kernel Oil*Ricinodendron heudelotii***Specific Gravity (SG)**

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.503–1.506

40°C

Other RI

Iodine Value 151

Saponification Value 193

Titer °C

% Unsaponifiable 0.5–1

Melting Point °C

Fatty Acid Composition (%)

16:0	10
18:0	7
Total 18:1	8–9
9c-18:1	36
9c,12c-18:2	36
9c,11t,13t-18:3	30
Other	.9t,11t,13t-18:3, 8 (β -eleostearic); 9c,11t,13c-18:3, 2 (catalpic)

References *Rev. Franc. Corp Gras* 39: 147 (1992)

Rock/Sun Rose Oil*Cistus albidus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 0.8

Melting Point °C

Fatty Acid Composition (%)

16:0 20.3

9c-16:1 0.7

17:0 0.1

18:0 4.6

9c-18:1 10.7

11c-18:1 0.3

9c,12c-18:2 47.3

Undefined 18:3 15.6

20:0 0.2

11c-20:1 0.2

References**Rosehip Oil***Rosa canina*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.478

40°C

Other RI

Iodine Value 152–169

Saponification Value 189

Titer °C

% Unsaponifiable 1.9–2.5

Melting Point °C

Fatty Acid Composition (%)

9c-18:1 29.3

9c,12c-18:2 56.7

Undefined 18:3 9.4

References**Rosemary Oil***Rosmarinus officinalis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 8.9

18:0 3.8

9c-18:1 20

9c,12c-18:2 64

Undefined 18:3 2.1

References**(Para) Rubber Seed Oil***Hevea brasiliensis*

Specific Gravity (SG)

15.5/15.5°C 0.922–0.932

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.466–1.469

Other RI (20) 1.474–1.476

Iodine Value 121–144

Saponification Value 186–198

Titer °C

% Unsaponifiable 0.5–1.8

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.2
16:0	7.3–11.4
18:0	5.7–12.6
Total 18:1	17–30
9c-18:1	21.4–49.9
9c,12c-18:2	29.3–41.6
Undefined 18:3	14–26
20:0	0.3–1

References**Rye Germ (Meal) Oil***Secale cereale*

Specific Gravity (SG)

15.5/15.5°C	0.9324–0.9412
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.472–1.478
40°C	
Other RI	

Iodine Value 109–142

Saponification Value 172–192

Titer °C

% Unsaponifiable 1–11.2

Melting Point °C

Fatty Acid Composition (%)

14:0	2
16:0	9–21
18:0	0.2
Total 18:1	7–35
9c,12c-18:2	48–72
Undefined 18:3	3–8

References**Safflower Oil (High Linoleic)***Carthamus tinctorius*

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.472–1.476
40°C	1.467–1.469
Other RI	

Iodine Value 132–150

Saponification Value 186–198

Titer °C

% Unsaponifiable 0–15

Melting Point °C

Fatty Acid Composition (%)

14:0	0–0.1
16:0	6.2
9c-16:1	0.4
18:0	2.2
Total 18:1	11.7
9c,12c-18:2	74.1
Undefined 18:3	0.4
20:0	0.3
Total 20:1	0.2
22:0	0.5
Unidentified 22:1	0.9
24:0	0.1
15c-24:1	0.1

References**Safflower Seed Oil***Carthamus tinctorius*

Specific Gravity (SG)

15.5/15.5°C	0.922–0.938
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.472–1.476
40°C	1.467–1.470
Other RI	(20) 1.4731–1.4754

Iodine Value 136–151

Saponification Value 186–203

Titer °C

% Unsaponifiable 0–1.5

Melting Point °C –5

Solidification Point °C –20 to –13

Fatty Acid Composition (%)

14:0	0–3.1
16:0	5.3–12
9c-16:1	0–0.2

18:0	0.9–9.5
Total 18:1	8.4–30
9c-18:1	7.1–79
9c,12c-18:2	8.7–83.2
Undefined 18:3	0–0.13
20:0	0–0.5
Total 20:1	0.1–0.3
11c-20:1	0–0.3
22:0	0–0.8
Unidentified 22:1	0–1.8
13c-22:1	0–0.2
24:0	0–0.2
15c-24:1	0–0.2
Sterol Composition, %	
Cholesterol	0–0.5
Brassicasterol	
Campesterol	9.2–13.0
Stigmasterol	6.5–9.6
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	40.2–49.8
D5-Avenasterol	2.1–4.0
D7-Stigmasterol	15.7–22.4
D7-Avenasterol	2.9–5.3
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0.5–2.8
% sterols in oil	
Total Sterols, mg/kg	2095–2650
Tocopherol Composition, mg/kg	
α -Tocopherol	230–660
β -Tocopherol	0–20
γ -Tocopherol	0–15
δ -Tocopherol	
Total, mg/kg	245–690
Tocotrienols Composition, mg/kg	
α -Tocotrienol	
β -Tocotrienol	
γ -Tocotrienol	0–15
δ -Tocotrienol	
Total Tocotrienols, mg/kg	

References Codex 1997/17

Safflower Seed Oil (High Oleic)

Carthamus tinctorius

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.920–0.925
Refractive Index (RI)	
25°C	1.4680–1.4720
40°C	
Other RI	
Iodine Value	85–95
Saponification Value	185–195
Titer °C	
% Unsaponifiable	0–1.5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.1
16:0	5–6
9c-16:1	0–0.2
18:0	1.5–2.2
Total 18:1	74–80
9c,12c-18:2	12–18
Undefined 18:3	0–0.2
20:0	0–0.3
Total 20:1	0–0.2
22:0	0–0.2

Sterol Composition, %

Cholesterol	0–0.2
Brassicasterol	
Campesterol	10–16
Stigmasterol	8–15
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	52–60
D5-Avenasterol	5–6
D7-Stigmasterol	13–18
D7-Avenasterol	5–6
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	

Spinasterol
 Squalene
 24-Methylene Cholesterol
 Other
 % sterols in oil
 Total Sterols, mg/kg

Tocopherol Composition, mg/kg
 α-Tocopherol 480–600
 β-Tocopherol
 γ-Tocopherol
 δ-Tocopherol
 Total, mg/kg

References *J. Am Oil Chem. Soc.* 60: 2003 (1983)
J. Am Oil Chem. Soc. 53: 713 (1976)
Riv. Ital. Sost. Grasse 65: 49 (1988)

Safou Oil

Dacryodes edulis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)
 12:0 0.1–0.4
 14:0 0–0.1
 16:0 36.5–47.9
 9c-16:1 0–0.1
 18:0 2–5.5
 Total 18:1 30–32
 9c-18:1 31.2–33.9
 9c,12c-18:2 17.5–24
 Undefined 18:3 0–0.7
 20:0 0–0.8
 Total 20:1 0.1
 22:0 0.1

References *Fruits* 46: 271 (1991)

Sage Oil

Salvia officinalis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)
 16:0 7.2
 18:0 2.4
 9c-18:1 13
 9c,12c-18:2 76
 Undefined 18:3 0.9

References

Sal Fat

Shorea robusta

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.456–1.457
 Other RI
 Iodine Value 31–45
 Saponification Value 175–192
 Titer °C
 % Unsaponifiable 0.6–1.3
 Melting Point °C 30–36

Fatty Acid Composition (%)
 16:0 5.3–23
 18:0 33–57

Total 18:1	31–52
9c-18:1	41.9–42.6
9c,12c-18:2	0.3–5
20:0	1–8
Other	Hydroxystearic, 0.8; epoxystearic, 0.4–1.2

- References** *J. Oil Technol. Assn. India* 13: 114 (1981)
J. Oil Technol. Assn. India 13: 120 (1981)
J. Food Sci. Technol. India 21: 322 (1984)

Salicornia Seed Oil

Salicornia bigelovii/Maroh samphire

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	8
18:0	2
Total 18:1	12
Undefined 18:2	74
Undefined 18:3	2–3

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	
Stigmasterol	
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	23
D5-Avenasterol	
D7-Stigmasterol	42

D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	17
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	49
β -Tocopherol	
γ -Tocopherol	48
δ -Tocopherol	
Total, mg/kg	

- References** *inform* 11: 418 (2000)

Salvania Cuculata Oil

Salvania cuculata

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.7
16:0	0.7
16:1	14.6
18:0	tr
Undefined 18:2	1.6
Undefined 18:3	1.4
20:0	tr
20:5	0.4
7c,10c,13c,16c-22:4	0.7
15c-24:1	69.9

Sterol Composition, %	
Cholesterol	
Brassicasterol	
Campesterol	
Stigmasterol	
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	9.9
% sterols in oil	
Total Sterols, mg/kg	

References *Food Chem.* 123: 1252–1254 (2010)

Samanea Saman Seed Oil (Monkey Pod)

Samanea saman

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.954
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	90–95
Saponification Value	193
Titer °C	
% Unsaponifiable	4
Melting Point °C	

Fatty Acid Composition (%)

14:0	1–2
16:0	2
16:1	1–2

Total 18:1	61
Undefined 18:2	20
Undefined 18:3	6
20:0	2
Total 20:1	4

References *Riv. Ital. Sost. Grasse* 73(4): 165 (1996)

Sapindus Mukorossi Oil

Sapindus mukorossi

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	5.27
9c-16:1	0.22
18:0	1.39
9c-18:1	52.39
7c-18:1	2.43
9c,12c-18:2	8.35
9c,12c,15c-18:3	1.37
20:0	4.93
11c-20:1	20.57
22:0	0.86
13c-22:1	0.75
24:0	0.5

Tocopherol Composition, mg/kg

α -Tocopherol	66
β -Tocopherol	
γ -Tocopherol	208
δ -Tocopherol	26
Total, mg/kg	

Tocotrienols Composition, mg/kg

α -Tocotrienol	
β -Tocotrienol	
γ -Tocotrienol	31
δ -Tocotrienol	
Total Tocotrienols, mg/kg	

References *J. Am Oil Chem. Soc.* 80: 1013–1020 (2003)

Schinziophyton Rautanenii Seed Oil

Schinziophyton rautanenii

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	3.85
Other SG	
Refractive Index (RI)	
25°C	1.48
40°C	
Other RI	
Iodine Value	185.26
Saponification Value	121.8–129
Titer °C	
% Unsaponifiable	0.58–0.74
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.03
16:0	9.6–10.8
18:0	3.04–7.7
9c-18:1	15.2–19.2
9c,12c-18:2	36.6–49.5
Undefined 18:3	16.7
13c-22:1	21.5

References *S. Afr. J. Bot.* 77: 920–933 (2011)

Schizochytrium Aggregatum (ATCC 28209) Fungal Lipids

Schizochytrium aggregatum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	4
14:1	1
16:0	17
16:1	6
16:2	2
18:0	6
Total 18:1	41
Undefined 18:2	15
Undefined 18:3	3
20:2	1
20:5	1
22:6	4

References *Lipids* 27: 15 (1992)

Schizonepeta Tenuifolia Oil

Schizonepeta tenuifolia

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.05
16:0	9.11
9c-16:1	0.12
18:0	1.65
9c-18:1	14.26

7c-18:1	1.48
9c,12c-18:2	29.18
9c,12c,15c-18:3	42.45
20:0	0.21
11c-20:1	0.19
22:0	0.06
13c-22:1	0.03
22:2	0.05

Tocopherol Composition, mg/kg

α-Tocopherol	64
β-Tocopherol	
γ-Tocopherol	546
δ-Tocopherol	37
Total, mg/kg	

References *Lipids* 27: 15 (1992)

Sciadopytis Verticillata Seed Oil

Sciadopytis verticillata

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	3
9c-16:1	0.1
18:0	2
Total 18:1	22
9c,12c-18:2	46
Undefined 18:3	2
20:0	0.3
Total 20:1	1–2
20:2	4–5
Other	11c,14c,17c-20:3, 0.2; 5c,11c-20:2, 0.8; 5c,11c,14c-20:3,

15; 5c,11c,14c,17c-20:4, 2

References *inform* 8: 116 (1997)

Sclerocarya Birrea Seed Oil

Sclerocarya birrea

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	0.90
Other SG	

Refractive Index (RI)

25°C	1.46
40°C	
Other RI	

Iodine Value

Saponification Value 162.7–193.5

Titer °C

% Unsaponifiable 0.7–3.1

Melting Point °C

Fatty Acid Composition (%)

16:0	9–12
18:0	5–8
9c-18:1	70–78
9c,12c-18:2	4–7
20:0	0.3–0.7

References *S. Afr. J. Bot.* 77: 920–933 (2011)

Seagrass Oil

Zostera marina

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	

Refractive Index (RI)

25°C	
40°C	
Other RI	

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	16.8
16:1	2.4
16:2	0.8
18:0	1.1
9c-18:1	1.7
9c,12c-18:2	15.7
Undefined 18:3	48.6
20:5	0.2

References *Phytochemistry* 65: 721–730 (2004)

Sequa Oil*Fevillea cordiflora*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.4751–1.4772

Other RI

Iodine Value 52–75

Saponification Value 192–195

Titer °C

% Unsaponifiable 0.7–0.8

Melting Point °C

Fatty Acid Composition (%)

16:0	4–4.2
17:0	0.1
18:0	53
Total 18:1	5
9c-18:1	4.7
9c,12c-18:2	4–4.3
9c,11t,13t-18:3	31
20:0	1
Other	18:3 conjugated isomers, 2

References *Fat Sci. Technol.* 94: 294 (1992)

Sesame Seed Oil*Sesamum indicum*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG . . . (20/20) 0.915–0.923, (20/4) 0.915–0.926

Refractive Index (RI)

25°C

40°C 1.465–1.469

Other RI (20) 1.474–1.476

Iodine Value 100–120

Saponification Value 187–199

Titer °C

% Unsaponifiable 0–2

Melting Point °C

Solidification Point °C –8 to –6

Fatty Acid Composition (%)

14:0	0–0.1
16:0	7.6–16.7
16:1	0.2
9c-16:1	0–0.2
18:0	3.8–6.7
Total 18:1	33.5–44.1
9c-18:1	36–50
Undefined 18:2	41.2
9c,12c-18:2	34.6–50.9
Undefined 18:3	0–1.1
20:0	0–1.2
Total 20:1	0–0.3
22:0	0–0.3
Unidentified 22:1	tr
24:0	0–0.3

Sterol Composition, %

Cholesterol	0.1–0.2
Brassicasterol	0.1–0.2
Campesterol	10.1–20.0
Stigmasterol	3.4–6.4
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	57.7–61.9
D5-Avenasterol	6.2–7.8
D7-Stigmasterol	1.8–7.6
D7-Avenasterol	1.2–5.6
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	

Other	0.7–9.2
% sterols in oil	
Total Sterols, mg/kg	4500–18960

Tocopherol Composition, mg/kg	
α-Tocopherol	0–4
β-Tocopherol	
γ-Tocopherol	521–983
δ-Tocopherol	4–21
Total, mg/kg	531–1000

Tocotrienols Composition, mg/kg	
α-Tocotrienol	
β-Tocotrienol	
γ-Tocotrienol	0–20
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *Codex 1993/16*

- J. Sci. Food Agric.* 59: 327 (1992)
Fat Sci. Technol. 94: 254 (1992)
J. Sci. Food Agric. 27: 165 (1976)
J. Am Oil Chem. Soc. 71: 149 (1994)
J. Sci. Food Technol. 59: 327 (1992)
J. Am Oil Chem. Soc. 74: 375–380 (1997)

Sesame Seed Oil

Sesamum radiatum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	2.5–2.7
Melting Point °C	

Fatty Acid Composition (%)

16:0	9.5–10
18:0	9.9–10
9c-18:1	37.9–38
11c-18:1	0.6
9c,12c-18:2	40.6–41

Undefined 18:3	0.5
20:0	1

Sterol Composition, %

Cholesterol	0.2
Brassicasterol	
Campesterol	12
Stigmasterol	4–6
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	60
D5-Avenasterol	12–13
D7-Stigmasterol	2–3
D7-Avenasterol	2–4
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	4–5 (monomethyl- and dimethylsterols)
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α-Tocopherol	0.8
β-Tocopherol	
γ-Tocopherol	97–99
δ-Tocopherol	0.4–2
Total, mg/kg	

References *Fat Sci. Technol.* 94: 254 (1992)

- J. Am Oil Chem. Soc.* 71: 149 (1994)

Sesamum Alatum Seed Oil

Sesamum alatum

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	10.5–11.5
16:1	0.28–0.32
17:0	0.09–0.11
18:0	5.1–5.6
9c-18:1	43.2–45.5
11c-18:1	0–1
Undefined 18:2	26.7–35.9
9c,12c-18:2	36.9
Undefined 18:3	0.7–0.9
20:0	0.5–0.9
24:0	0.09–0.11
15c-24:1	0.1

Tocopherol Composition, mg/kg

α-Tocopherol	18–20
β-Tocopherol	13–15
γ-Tocopherol	213–215
δ-Tocopherol	0–4
Total, mg/kg	

Tocotrienols Composition, mg/kg

α-Tocotrienol	1–3
β-Tocotrienol	
γ-Tocotrienol	2–4
δ-Tocotrienol	0–1
Total Tocotrienols, mg/kg	

References *Grasas y Aceites* 59: 321–326
 (2008)

Sesbania Pachycarpa Seed Oil*Sesbania pachycarpa***Specific Gravity (SG)**

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	6.9
16:2	1.4
18:0	4.3
9c-18:1	16.1
11c-18:1	0.4
9c,12c-18:2	18.7
9c,12c,15c-18:3	20.8
20:0	0.7
Total 20:1	0.3
22:0	0.9
24:0	0.3

References *J. Am Oil Chem. Soc.* 75: 1031
 (1998)

Sesbania Paludosa Seed Oil*Sesbania paludosa***Specific Gravity (SG)**

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	15.8–16.2
18:0	3.5–3.7
Total 18:1	16.3
9c-18:1	11.3
Undefined 18:2	61.4
9c,12c-18:2	64.9
Undefined 18:3	1
20:0	2.8

References *Int. J Food Sci. Nutr.* 52:
 337–341 (2001)

Sheanut Butter

Butyrospermum parkii/Vitellaria paradoxa

Specific Gravity (SG)
 15.5/15.5°C 0.915–0.918
 25/25°C
 Other SG (100/15) 0.859–0.869

Refractive Index (RI)
 25°C
 40°C 1.4629–1.4679
 Other RI

Iodine Value 52–66

Saponification Value 178–198

Titer °C

% Unsaponifiable 2–11

Melting Point °C 23–24

Solidification Point °C 17–27, 48–54

Fatty Acid Composition (%)

8:0 0–0.3
 10:0 0–0.3
 12:0 0.4–2.4
 14:0 0.1–1
 16:0 0.5–8.5
 16:1 0–0.1
 18:0 35.1–47.4
 Total 18:1 43.5–50
 9c-18:1 33.3–49.9
 Undefined 18:2 4.9
 9c,12c-18:2 3.4–8
 Undefined 18:3 0–1.6
 20:0 0.1–2
 11c-20:1 0.1–0.5
 22:0 0–0.1
 Other 0.3–1.2

Sterol Composition, %

Cholesterol
 Brassicasterol
 Campesterol
 Stigmasterol
 Stigmasta-8,22-dien-3β-ol
 5α-Stigmasta-7,22-dien-3β-ol
 D7,25-Stigmastadienol
 β-Sitosterol
 D5-Avenasterol
 D7-Stigmasterol 38
 D7-Avenasterol 11

D7-Campesterol
 D7-Ergosterol
 D7,25-Stigmasterol
 Sitostanol
 Spinasterol
 Squalene
 24-Methylene Cholesterol
 Other 24-Methyl-D7-cholestanol, 6;
 D7,22-Stigmastadien-3β-ol, 45
 % sterols in oil
 Total Sterols, mg/kg 2470

References *J. Am. Dietetics Assn.* 73: 39 (1978)

Shepherd’s-purse Oil

Capsella bursa-pastoris

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG

Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 9
 9c-16:1 0.3
 18:0 6
 9c-18:1 11
 9c,12c-18:2 18
 Undefined 18:3 35
 20:0 3
 11c-20:1 13

References

Sida Humilis Seed Oil

Sida humilis

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	73–107
Saponification Value	
Titer °C	
% Unsaponifiable	0.9–1
Melting Point °C	

Fatty Acid Composition (%)

12:0	0.4
14:0	0.5
16:0	17
18:0	4
Total 18:1	65
9c,12c-18:2	5.7–6
Undefined 18:3	1.8–2
20:0	3
22:0	2–3

References *Fette Seifen Anstrichm.* 86: 167 (1984)

Simarouba (Paradise) Oil*Simarouba glauca*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4556
40°C	1.4596
Other RI	
Iodine Value	54–58
Saponification Value	191–192
Titer °C	
% Unsaponifiable	0.4
Melting Point °C	25–28

Fatty Acid Composition (%)

16:0	10.9–12
18:0	25–33
Total 18:1	55–59
9c,12c-18:2	3.3

Undefined 18:3	0.4
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References *inform 13*: 151 (2002)

Soap Tree Seed Oil*Sapindus trifoliatus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.4764–1.4880
40°C	
Other RI	
Iodine Value	58–64
Saponification Value	180–194
Titer °C	
% Unsaponifiable	1–1.5
Melting Point °C	

Fatty Acid Composition (%)

16:0	5–7
9c-16:1	0.8–1
18:0	4–8
Total 18:1	55–62
9c-18:1	58.2
9c,12c-18:2	2–8
Undefined 18:3	0–1
20:0	16–22
Total 20:1	0–9
22:0	1–2
Unidentified 22:1	0.5
24:0	0.3

References *Fat Sci. Technol.* 96: 69 (1994)

Soapberry (Chinese) Seed Oil*Sapindus murososi*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	4–6
16:1	0.5
18:0	0.2–1
Total 18:1	54–63
Undefined 18:2	5–14
Undefined 18:3	1–6
20:0	4–6
Total 20:1	15–22

References *Lipids 10* (1): 33 (1975)
Fette Selen Austrichm 73: 639 (1971)

Soapberry Seed Oil*Cupania anacardioides*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	12
9c-16:1	8
18:0	6
Total 18:1	10
9c,12c-18:2	16
20:0	2
Total 20:1	46

References *J. Am Oil Chem. Soc.* 63: 671
 (1986)

Soapberry Seed Oil*Pauullinia elegans*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	2.2
9c-16:1	3.6
18:0	1.7
9c-18:1	12.2
11c-18:1	19.8
9c,12c-18:2	3.1
Undefined 18:3	1.8
20:0	5
Total 20:1	48.7
22:0	0.3
Unidentified 22:1	1.2

References**Soapnut Oil***Sapindus trifoliatus*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable 1.5
 Melting Point °C

Fatty Acid Composition (%)

16:0	7
9c-16:1	0.8
18:0	4.3
9c-18:1	58.2
9c,12c-18:2	2.1
Undefined 18:3	0.3
20:0	15.9
11c-20:1	8.6
22:0	1.5
13c-22:1	0.5
24:0	0.3

References**Solanum Melongena Seed Oil***Solanum melongena*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.12
16:0	9.49
9c-16:1	0.22
18:0	3.22
9c-18:1	14.53
7c-18:1	1
9c,12c-18:2	68.95
9c,12c,15c-18:3	1.49
20:0	0.23
11c-20:1	0.08
22:0	0.12
22:2	0.03
24:0	0.15

Tocopherol Composition, mg/kg

 α -Tocopherol 56

β -Tocopherol	35
γ -Tocopherol	372
δ -Tocopherol	39
Total, mg/kg	

References *J. Am Oil Chem. Soc.* 80:
1013–1020 (2003)**Sorghum Seed Oil***Sorghum vulgare*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.4686–1.4720

40°C

Other RI

Iodine Value 108–122

Saponification Value 181–191

Titer °C

% Unsaponifiable 1.7–3.2

Melting Point °C

Fatty Acid Composition (%)

14:0	0–1
16:0	6–10
9c-16:1	0–1
18:0	3–6
Total 18:1	30–47
9c,12c-18:2	40–55
Undefined 18:3	0–1

References**Sorghum Seed Oil (Durra Oil)***Sorghum bicolor*

Specific Gravity (SG)

15.5/15.5°C 0.910–0.928

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.470–1.471

Other RI

Iodine Value	99–126
Saponification Value	172–186
Titer °C	
% Unsaponifiable	1.7–8
Melting Point °C	39–44
Solidification Point °C	8–10

Fatty Acid Composition (%)

16:0	15–25
9c-16:1	tr-1.1
18:0	1.0–1.4
Total 18:1	30–42
9c,12c-18:2	36–51
Undefined 18:3	1.6–2.3

Sterol Composition, %

Cholesterol	0.8–2.1
Brassicasterol	
Campesterol	19–29
Stigmasterol	14–21
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	44–58
D5-Avenasterol	4.1–7.4
D7-Stigmasterol	tr-2.5
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	

References *J. Sci. Food Agric.* 70: 334 (1996)

Sour Cherry Kernel Oil*Prunus vulgaris*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	

25°C
40°C
Other RI

Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	2.9–8.1
18:0	1.8–7
Total 18:1	38.6–43.6
Undefined 18:2	38.2–43.4
Undefined 18:3	7.8–8

References *Chem. Nat. Compd.* 38: 5 (2002)

Soybean Lecithin Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	

Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	12
16:1	0.4
18:0	2.9
Total 18:1	10.6
Undefined 18:2	40.2
Undefined 18:3	5.1

References

Soybean Oil*Glycine max*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.916–0.922
Other SG	(20/20) 0.919–0.925
Refractive Index (RI)	
25°C	1.4728
40°C	1.466–1.470
Other RI	(20) 1.4747–1.4765
Iodine Value	118–139
Saponification Value	188–195
Titer °C	
% Unsaponifiable	0–2
Melting Point °C	
Solidification Point °C	–18 to –8

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–0.2
16:0	9.5–13.3
16:1	tr
9c-16:1	0–0.2
17:0	0–0.1
18:0	3.0–6.1
Total 18:1	17.7–28.5
9c-18:1	21.9–26.6
Undefined 18:2	53.7
9c,12c-18:2	46.2–57.1
Undefined 18:3	5.5–11
20:0	0–0.6
Total 20:1	0–0.3
11c-20:1	0–0.2
20:2	0–0.1
22:0	0–0.7
Unidentified 22:1	0–0.3
24:0	0–0.4
Other	0–1.7

Sterol Composition, %

Cholesterol	0.6–1.4
Brassicasterol	0–0.3
Campesterol	15.8–24.2
Stigmasterol	15.9–19.1
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	51.7–57.6
D5-Avenasterol	1.9–3.7

D7-Stigmasterol	1.4–5.2
D7-Avenasterol	1.0–4.6
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	0–1.8
% sterols in oil	
Total Sterols, mg/kg	1840–4090

Tocopherol Composition, mg/kg

α-Tocopherol	9–352
β-Tocopherol	0–40
γ-Tocopherol	89–2400
δ-Tocopherol	150–932
Total, mg/kg	573–3363

Tocotrienols Composition, mg/kg

α-Tocotrienol	0–69
β-Tocotrienol	
γ-Tocotrienol	0–103
δ-Tocotrienol	
Total Tocotrienols, mg/kg	

References *Codex* 1997/17

- J. Sci. Food Agric.* 72: 403 (1996)
J. Am Oil Chem. Soc. 74: 375–380 (1997)
J. Am Oil Chem. Soc. 87: 667–671 (2010)

Soybean Oil (High Palmitic, HP)*GMO*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	

Melting Point °C	
Flash Point °C	282

Fatty Acid Composition (%)

14:0	0.1
16:0	23.8
9c-16:1	0.7
18:0	3.8
Total 18:1	15.4
9c,12c-18:2	44.1
Undefined 18:3	11.0
20:0	0.4
Total 20:1	0.1
22:0	0.6
24:0	0.1

References *J. Am Oil Chem. Soc.* 70: 983 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (High Saturate, Hsat)*GMO*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	21.9
9c-16:1	0.3
18:0	17.5
Total 18:1	9.4
9c,12c-18:2	37.5
Undefined 18:3	11.0
20:0	1.3
Total 20:1	0.1

22:0	1.0
24:0	0.2

References *J. Am Oil Chem. Soc.* 70: 983 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (High Stearic, HS)*GMO*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
40°C
Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	8.0
9c-16:1	0.1
18:0	24.7
Total 18:1	17.2
9c,12c-18:2	39.2
Undefined 18:3	8.3
20:0	1.5
Total 20:1	0.1
22:0	0.7
24:0	0.1

References *J. Am Oil Chem. Soc.* 70: 983 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (HP/LLn)*GMO*

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG

Refractive Index (RI)

25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.1
 16:0 19.2
 9c-16:1 0.8
 18:0 4.1
 Total 18:1 23.2
 9c,12c-18:2 48.2
 Undefined 18:3 3.3
 20:0 0.4
 Total 20:1 0.1
 22:0 0.5
 24:0 0.1

References *J. Am Oil Chem. Soc.* 70: 983
 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (Low Linolenic, LLn)*GMO*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value 126
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 0.1
 16:0 10.9–11
 9c-16:1 0.1

18:0 4–5.7
 Total 18:1 25–27.5
 9c,12c-18:2 51.5–55
 Undefined 18:3 3–4
 20:0 0.5
 Total 20:1 0.2
 22:0 0.4
 24:0 0.1

References *J. Am Oil Chem. Soc.* 70: 983
 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (Low Saturate, Lsat)*GMO*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 3.5
 9c-16:1 0.1
 18:0 2.8
 Total 18:1 22.7
 9c,12c-18:2 60.3
 Undefined 18:3 9.8
 20:0 0.2
 Total 20:1 0.3
 22:0 0.2
 24:0 0.1

References *J. Am Oil Chem. Soc.* 70: 983
 (1993)
J. Am Oil Chem. Soc. 74: 989 (1997)

Soybean Oil (Lsat/LLn)*GMO*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 4.1

9c-16:1 0.1

18:0 3.4

Total 18:1 28.3

9c,12c-18:2 60.6

Undefined 18:3 2.7

20:0 0.2

Total 20:1 0.3

22:0 0.3

24:0 0.1

References *J. Am Oil Chem. Soc.* 70: 983
(1993)*J. Am Oil Chem. Soc.* 74: 989 (1997)**Soybean Oil (Tropical Area)***Glycine max*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 10

16:2 1.9

18:0 3.4

9c-18:1 21.2

11c-18:1 1.3

9c,12c-18:2 40.5

6c,9c,12c-18:3 0.4

9c,12c,15c-18:3 5.5

20:0 0.4

Total 20:1 0.2

22:0 0.4

References *J. Am Oil Chem. Soc.* 75: 1031
(1998)**Spicebush Kernel Fat***Lindera benzoin*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.4553

40°C

Other RI

Iodine Value 14

Saponification Value 284

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

8:0 0.2

10:0 42–47

12:0 45–47

14:0 2–3

16:0 0.4–1

18:0 0–0.1

Total 18:1 2–4

9c-18:1 4

9c,12c-18:2 2–3

Undefined 18:3 0.1

Total 20:1 0.1

References *Lipids* 1: 118 (1966)
Lipids 2: 345 (1967)

Spinach Oil*Spinacia oleracea*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0	0.1
14:0	0.2
16:0	10.4
9c-16:1	0.3
18:0	0.6
9c-18:1	23.5
9c,12c-18:2	60.9
Undefined 18:3	2
20:0	0.2
11c-20:1	0.8
22:0	0.3
13c-22:1	0.3
24:0	0.2

References**Spruce Seed Oil***Picea abies*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.477–1.478

40°C

Other RI

Iodine Value 150–170

Saponification Value 191–193

Titer °C

% Unsaponifiable 1

Melting Point °C

Solidification Point °C –27 to –26

Fatty Acid Composition (%)**References****Starfruit Seed Oil***Averrhoa carambola*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.7
16:0	21.3
18:0	8.1
9c-18:1	45.8
9c,12c-18:2	22.3
20:0	1.1
11c-20:1	0.3
22:0	0.3

References**Sterculia Tomentosa Oil***Sterculia tomentosa*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.5
16:0	20.5
9c-16:1	0.5
17:0	0.7
18:0	5.7
9c-18:1	20.5
9c,12c-18:2	29.8
9c,12c,15c-18:3	2.1
20:0	0.5
22:0	0.3
Other	Malvalic, 5.8; sterculic, 11.3

References *J. Am Oil Chem. Soc.* 70: 205
 (1993)

Sterculia Tragacantha Oil*Sterculia tragacantha*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.2
16:0	23.6
9c-16:1	0.6
17:0	0.2
18:0	5.64
9c-18:1	14.8
7c-18:1	0.9
9c,12c-18:2	15.9

9c,12c,15c-18:3	1.8
20:0	0.9
22:0	0.6
Other	Malvalic, 5.1; sterculic, 30.2

References *J. Am Oil Chem. Soc.* 70: 205
 (1993)

**Stillingia Seed Kernel Oil
 (Chinese Tallow Tree)***Sapium sebiferum*

Specific Gravity (SG)

15.5/15.5°C 0.939–0.946

25/25°C 0.936–0.944

Other SG

Refractive Index (RI)

25°C 1.4817–1.484

40°C

Other RI

Iodine Value 169–191

Saponification Value 202–212

Titer °C

% Unsaponifiable 0.5–3

Melting Point °C

Fatty Acid Composition (%)

12:0	2.2
16:0	3.8–9
9c-16:1	1.4
18:0	1–5
Total 18:1	7–10
9c-18:1	7–11
7c-18:1	tr
9c,12c-18:2	24–63
Undefined 18:3	22–54
Other	10:2, 4–5

References

Stone Pine Nut Oil*Pinus cembra*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)	
25°C	1.476
40°C	
Other RI	
Iodine Value	173
Saponification Value	194
Titer °C	
% Unsaponifiable	1.6
Melting Point °C	
Solidification Point °C	-20

Fatty Acid Composition (%)**References****Strawberry Seed Oil***Fragaria vesca*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.479
40°C	
Other RI	
Iodine Value	180
Saponification Value	194
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)**References****Sugar Apple Oil***Annona squamosa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	

Saponification Value	
Titer °C	
% Unsaponifiable	1.6
Melting Point °C	

Fatty Acid Composition (%)

14:0	1.5
16:0	25.1
9c-16:1	3.1
18:0	9.3
9c-18:1	37
9c,12c-18:2	10.9
20:0	3.3

References**Sunflower Seed Oil***Helianthus annuus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG . . . (20/20)	0.918–0.923, (15/25) 0.922–0.926
Refractive Index (RI)	
25°C	1.472–1.476
40°C	1.467–1.469
Other RI	
Iodine Value	115–145
Saponification Value	186–196
Titer °C	
% Unsaponifiable	0–1.5
Melting Point °C	
Solidification Point °C	-18 to -16

Fatty Acid Composition (%)

12:0	0–0.5
14:0	0–0.2
16:0	4.9–8
9c-16:1	0–0.3
18:0	1.3–7
Total 18:1	13–40
9c-18:1	6–78
11c-18:1	0–0.6
9c,12c-18:2	17–85
Undefined 18:3	0–0.5
20:0	0.1–4
Total 20:1	0–0.5
11c-20:1	0.1–0.3

22:0	0–1.4
Unidentified 22:1	0–0.5
24:0	0–0.4

Sterol Composition, %

Cholesterol	0–0.7
Brassicasterol	0–0.2
Campesterol	7–13
Stigmasterol	7–12
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	56–65
D5-Avenasterol	1.5–7
D7-Stigmasterol	7–24
D7-Avenasterol	3–6.5
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	D7-Campesterol, 2–3; clerosterol, 0.7–1; other, 0–5.3
% sterols in oil	
Total Sterols, mg/kg	2440–4550

Tocopherol Composition, mg/kg

α-Tocopherol	400–950
β-Tocopherol	0–50
γ-Tocopherol	0–50
δ-Tocopherol	0–10
Total, mg/kg	

References *Codex* 1997/17

J. Am Oil Chem. Soc. 60: 387 (1983)
J. Am Oil Chem. Soc. 74: 989 (1997)
J. Am Oil Chem. Soc. 74: 375–380 (1997)
J. Am Oil Chem. Soc. 87: 667–671 (2010)

Sunflower Seed Oil (High Linoleic, HL)

GMO

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	

Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.1
16:0	7.5
9c-16:1	0–0.1
18:0	1.9
Total 18:1	13.3
9c,12c-18:2	76.0
Undefined 18:3	0.1
20:0	0.1
Total 20:1	0.2
22:0	0.4
24:0	0.2

References *J. Am Oil Chem. Soc.* 74: 989 (1997)

Sunflower Seed Oil (High Oleic, HO)

GMO

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.912–0.915
Other SG (20/20)	0.915–0.920
Refractive Index (RI)	
25°C	1.467–1.469
40°C	
Other RI	
Iodine Value	75–90
Saponification Value	
Titer °C	
% Unsaponifiable	0.8–2.0
Melting Point °C	

Fatty Acid Composition (%)

16:0	3–5.2
16:1	0.1

9c-16:1	0.1–0.2
18:0	3–5
Total 18:1	70–92
Undefined 18:2	56.5
9c,12c-18:2	2–20
Undefined 18:3	tr
20:0	0.3
Total 20:1	0.2
22:0	1
Unidentified 22:1	0.1
24:0	0.4

Sterol Composition, %

Cholesterol	0–0.5
Brassicasterol	0–0.1
Campesterol	7–12
Stigmasterol	8–13
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	53–61
D5-Avenasterol	1.5–5
D7-Stigmasterol	7–21
D7-Avenasterol	3–6
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	0.3–1.5
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	D7-Campesterol, 1–3
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α -Tocopherol	94–430
β -Tocopherol	2
γ -Tocopherol	1
Total, mg/kg	450

References *J. Am Oil Chem. Soc.* 74: 989 (1997)

- J. Am Oil Chem. Soc.* 63: 1062 (1986)
Riv. Ital. Sost. Grasse 71: 171 (1994)
J. Am Oil Chem. Soc. 72: 1513 (1995)
J. Chromatogr. 630: 213 (1993)

Sunflower Seed Oil (High Palmitic/High Linoleic, HP/HL)

GMO

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.1
16:0	27.3
9c-16:1	4.4
18:0	2.7
Total 18:1	17.1
9c,12c-18:2	46.8
Undefined 18:3	0.1
20:0	0.3
Total 20:1	0.1
22:0	0.8
Unidentified 22:1	0.1
24:0	0.3

References *J. Am Oil Chem. Soc.* 74: 989 (1997)

Sunflower Seed Oil (High Palmitic/High Oleic, HP/HO)

GMO

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	24.6
9c-16:1	6.1
18:0	2.9
Total 18:1	59.8
9c,12c-18:2	3.5
Undefined 18:3	0.1
20:0	0.4
Total 20:1	0.2
22:0	1.8
Unidentified 22:1	0.1
24:0	0.6

References *J. Am Oil Chem. Soc.* 74: 989
 (1997)

Sunflower Seed Oil (High Stearic/High Oleic, HS/HO)

GMO

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0	4.6
9c-16:1	0.1
18:0	11.0
Total 18:1	79.1
9c,12c-18:2	2.0
Undefined 18:3	0.1
20:0	0.9
Total 20:1	0.2

22:0	1.8
24:0	0.3

References *J. Am Oil Chem. Soc.* 74: 989
 (1997)

Sweet Pea Oil

Pisum sativum

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.463
 Other RI
 Iodine Value 112
 Saponification Value 184
 Titer °C
 % Unsaponifiable 1.4
 Melting Point °C
 Solidification Point °C 2

Fatty Acid Composition (%)**References**

Sweet Pea Seed Oil

Lathyrus odoratus

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0	0.4
16:0	20.8–21.3

9c-16:1	0–0.3
18:0	4.8–5.3
Total 18:1	25.4
9c-18:1	24.3
Undefined 18:2	43.6
9c,12c-18:2	45.1
20:0	3.8–4.3

References *Int. J. Food Sci. Nutr.* 52: 337–341 (2001)

Sweet Rocket Oil (Dame's Violet)

Hesperis matronalis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 190

Saponification Value 193

Titer °C

% Unsaponifiable 2

Melting Point °C

Fatty Acid Composition (%)

16:0 8

9c-16:1 1

18:0 2

Total 18:1 11

9c-18:1 13

9c,12c-18:2 24–35

Undefined 18:3 46–51

Other saturate, 8–9

References

Tabebuia Argentina Oil

Tabebuia argentia

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 116.3

Saponification Value 203.1

Titer °C

% Unsaponifiable 2.9

Melting Point °C

Fatty Acid Composition (%)

16:0 21.7

18:0 3.8

9c-18:1 9.8

9c,12c-18:2 52.7

Undefined 18:3 3

References *J. Am. Oil Chem. Soc.* 688:

520–521 (1991)

Tall Oil (Crude from Pine Wood Pulping)

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.968–0.976

Other SG

Refractive Index (RI)

25°C 1.494

40°C

Other RI

Iodine Value 140–180

Saponification Value 154–180

Titer °C

% Unsaponifiable 9–23

Melting Point °C

Fatty Acid Composition (%)

16:0 5–6

18:0 2–3

Total 18:1 41–48

9c,12c-18:2 41–52

Other 18:2 conjugated, 7–13

References

Tamarind Kernel Oil*Tamarindus indica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.920
Other SG	
Refractive Index (RI)	
25°C	1.4750
40°C	
Other RI	
Iodine Value	118
Saponification Value	190
Titer °C	
% Unsaponifiable	2.5–3.6
Melting Point °C	

Fatty Acid Composition (%)

12:0	0–28.2
14:0	0–0.4
16:0	6.3–17.4
9c-16:1	0–0.3
18:0	0–6.7
Total 18:1	27
9c-18:1	14.1–27
9c,12c-18:2	7.5–55.4
Undefined 18:3	0–6
20:0	2.6–5
11c-20:1	0–1
22:0	0–12.2
24:0	0–22.3

References *J. Am Oil Chem. Soc.* 54: 592 (1977)

Tanacetum Seed Oil*Chrysanthemum corymbosum*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	

Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	4
17:0	0.3
18:0	1–2
Total 18:1	0.6
Undefined 18:2	58
9c,12a-18:2	10
Undefined 18:3	0.2
8t,10t,12a-18:3	18
20:0	0.3

References *Lipids* 33: 723 (1998)

Tara Seed Oil*Caesalpinia spinosa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	2.4–2.7
Melting Point °C	

Fatty Acid Composition (%)

16:0	14.6–19.2
9c-16:1	0.6–0.8
17:0	0–0.1
18:0	4.9–5.3
9c-18:1	12.1–15.2
11c-18:1	5.5–5.7
9c,12c-18:2	52.4–54
Undefined 18:3	0.4–0.6
20:0	0.8
11c-20:1	0–0.1
22:0	1.9–2.5

References

Taramira Seed Oil (Rocket Salad)

Eruca sativa

Specific Gravity (SG)	
15.5/15.5°C	0.914–0.920
25/25°C	0.910
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.4680
Other RI	(20) 1.472–1.475
Iodine Value	130–137
Saponification Value	168–176
Titer °C	
% Unsaponifiable	0.7–1.5
Melting Point °C	

Fatty Acid Composition (%)

16:0	2–10
9c-16:1	0.2
18:0	1–2
Total 18:1	8–24
9c,12c-18:2	8–16
Undefined 18:3	10–36
20:0	1–2
20:2	0–1
22:0	1–2
Unidentified 22:1	10–58
24:0	0–1
15c-24:1	0.4
Other	13c-20:1, 8–13; 5c,16c-22:2, 0.5

- References** *Ind. Crop. Prod.* 1: 52 (1992)
J. Am Oil Chem. Soc. 62: 1134 (1985)
J. Am Oil Chem. Soc. 66: 139 (1989)
J. Sci. Food Agric. 27: 373 (1976)

Taramira/Arrugula Seed Oil

Eruca sativa

Specific Gravity (SG)	
15.5/15.5°C	0.912–0.920
25/25°C	0.910
Other SG	
Refractive Index (RI)	
25°C	

40°C	1.4680
Other RI	(20) 1.472–1.475
Iodine Value	95–137
Saponification Value	168–176
Titer °C	
% Unsaponifiable	0.8–1.5
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.1
16:0	2–10
9c-16:1	0.2
18:0	0.9–2
Total 18:1	8–24
9c-18:1	15.1–35.7
9c,12c-18:2	7.6–16
Undefined 18:3	2.1–36
20:0	0.6–10
11c-20:1	10–12.6
20:2	0–1
22:0	0–2
Unidentified 22:1	10–58
13c-22:1	37.5–46.3
24:0	0–1.8
15c-24:1	0–1
Other	13c-20:1, 8–13; 5c,16c-22:2, 0.5

References

Taxus Baccata Seed Oil

Taxus baccata

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	tr
------	----

16:0	3–4.1
16:1	0.06
9c-16:1	0.1
17:0	0.05
18:0	2.47–3.1
Total 18:1	56
9c-18:1	54.78–59.3
11c-18:1	0.33
5,9–18:2	9.5
9c,12a-18:2	23.08
9c,12c-18:2	16.8–23
Undefined 18:3	1–2
9c,12c,15c-18:3	1.27
5c,9c,12c-18:3	0.33
5,9c,12c,15c-18:4	tr
20:0	tr-0.06
Total 20:1	1
11c-20:1	1.33–1.5
20:2	0.27–0.6
5,11c,14c-20:3	1.64
5c,11c,14c,17–20:4	0.28
Other	5c,9c-18:2, 10; 5c,11c-20:2, 0.2; 5c,11c,14c-20:3, 1.5; 5c,11c,14c,17c-20:4, 0.2

References *inform* 8: 116 (1997)
J. Am Oil Chem. Soc. 75: 1637–1641
(1998)

Taxus Chinensis Seed Oil

Taxus chinensis

Specific Gravity (SG)	15.5/15.5°C 25/25°C Other SG
Refractive Index (RI)	25°C 40°C Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)	
14:0	0.07

16:0	3.23
16:1	0.09
17:0	0.05
18:0	1
9c-18:1	34.31
11c-18:1	0.54
5,9–18:2	16.08
9c,12a-18:2	34.22
9c,12c,15c-18:3	2.09
5c,9c,12c-18:3	3.31
5,9c,12c,15c-18:4	0.28
20:0	0.06
11c-20:1	1.46
20:2	0.7
5,11c,14c-20:3	2.13
5c,11c,14c,17–20:4	tr

References *J. Am Oil Chem. Soc.* 75:
1637–1641 (1998)

Taxus Cuspidata Seed Oil

Taxus cuspidata

Specific Gravity (SG)	15.5/15.5°C 25/25°C Other SG
Refractive Index (RI)	25°C 40°C Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)	
14:0	tr
16:0	2.6–3.18
16:1	tr
17:0	0.06
18:0	0.8–0.87
9c-18:1	36.5–39.21
11c-18:1	0.5–0.62
5,9–18:2	16.16
9c,12a-18:2	29.35
9c,12c-18:2	32.9

Undefined 18:3	1.6
9c,12c,15c-18:3	2
5c,9c,12c-18:3	2.66
5,9c,12c,15c-18:4	0.25
20:0	0.06
11c-20:1	1.4–1.49
20:2	0.21–0.65
5,11c,14c-20:3	2.16
5c,11c,14c,17–20:4	0.08

References *J. Am Oil Chem. Soc.* 75:
1637–1641 (1998)

Taxus Grandis Seed Oil

Taxus grandis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0	0.02
16:0	5.49
16:1	0.05
17:0	0.05
18:0	2.22
9c-18:1	40.39
11c-18:1	0.54
5,9–18:2tr	
9c,12a-18:2	32.05
9c,12c,15c-18:3	0.50
5c,9c,12c-18:3	0.04
20:0	0.07
11c-20:1	2.12
20:2	0.82–3.21
5,11c,14c-20:3	11.20
5c,11c,14c,17–20:4	0.19

References *J. Am Oil Chem. Soc.* 75:
1637–1641 (1998)

Teaseed Oil

Thea sinensis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C 1.466–1.469

40°C 1.462–1.464

Other RI

Iodine Value 84–91

Saponification Value 188–195

Titer °C

% Unsaponifiable 0.1–1

Melting Point °C

Fatty Acid Composition (%)

12:0	0–0.1
14:0	0–2
16:0	5–17.5
16:1	0–0.5
18:0	0.3–4
Total 18:1	49.9–87
9c,12c-18:2	7–24
Undefined 18:3	0–0.7
20:0	0–0.6
Total 20:1	0–2
20:2	0–2

Sterol Composition, %

Cholesterol	
Brassicasterol	
Campesterol	
Stigmasterol	
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	34
D7-Avenasterol	2
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	

Spinasterol	60
Squalene	
24-Methylene Cholesterol	
Other 24-Methyl-cholest-7-enol, 4	
% sterols in oil	
Total Sterols, mg/kg	

Tocopherol Composition, mg/kg

α-Tocopherol	
β-Tocopherol	
γ-Tocopherol	
δ-Tocopherol	
Total, mg/kg	1020

References *J. Am. Dietetic Assn.* 73: 39 (1978)
J. Sci. Food Agric. 27: 1115 (1976)

Teaseed Oil (Sasanqua Oil)

Camellia sasanqua

Specific Gravity (SG)

15.5/15.5°C	0.9154–0.9179
25/25°C	0.909–0.920
Other SG	

Refractive Index (RI)

25°C	1.466–1.470
40°C	1.460–1.464
Other RI	(20) 1.4691

Iodine Value 80–92
 Saponification Value 188–196
 Titer °C
 % Unsaponifiable 0.1–1
 Melting Point °C
 Solidification Point °C –9

Fatty Acid Composition (%)

14:0	0–0.1
16:0	12–15.5
18:0	1–3
Total 18:1	72–74
9c-18:1	72.3
9c,12c-18:2	7.3–15
Undefined 18:3	0.8
20:0	0.2

References

Teaseed Oil (Tsubaki Oil)

Camellia japonica

Specific Gravity (SG)

15.5/15.5°C	0.9150–0.9168
25/25°C	
Other SG	

Refractive Index (RI)

25°C	1.465–1.468
40°C	
Other RI	(20) 1.4679–1.4692

Iodine Value 78–82
 Saponification Value 188–197
 Titer °C
 % Unsaponifiable 0.2
 Melting Point °C
 Solidification Point °C –21 to –15

Fatty Acid Composition (%)

16:0	9
18:0	2
Total 18:1	87
9c,12c-18:2	2

References

Teaseed Oil (Turkish)

Specific Gravity (SG)

15.5/15.5°C	
25/25°C	0.9180
Other SG	

Refractive Index (RI)

25°C	1.4692
40°C	
Other RI	

Iodine Value 91
 Saponification Value 193
 Titer °C
 % Unsaponifiable 1.1
 Melting Point °C

Fatty Acid Composition (%)

16:0	16
18:0	2
Total 18:1	59
9c,12c-18:2	22
20:0	1

References *Fette Seifen Anstrichm.* 79: 115 (1977)

Thumba Oil

Citrus colocythis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C 0.9200
 Other SG
 Refractive Index (RI)
 25°C 1.4741
 40°C
 Other RI
 Iodine Value 129
 Saponification Value 192
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

14:0 1
 16:0 9–14
 16:1 1
 18:0 6–9
 Total 18:1 17–26
 Undefined 18:2 50–65

References *inform 13*: 151 (2002)

Thyme Oil

Thymus serpyllum/T. vulgaris/

T. zygis

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

Fatty Acid Composition (%)

16:0 1.6–5.6
 17:0 0–2.1
 18:0 1.7–2.4
 9c-18:1 2.6–9.4
 9c,12c-18:2 12.4–20.2
 Undefined 18:3 54–63.1

References

Tobacco Seed Oil

Nicotiana tabacum

Specific Gravity (SG)
 15.5/15.5°C 0.920–0.925
 25/25°C 0.9186–0.9196
 Other SG
 Refractive Index (RI)
 25°C 1.4715–1.4770
 40°C 1.4678–1.4717
 Other RI
 Iodine Value 112–147
 Saponification Value 187–200
 Titer °C
 % Unsaponifiable 0–3
 Melting Point °C

Fatty Acid Composition (%)

16:0 3–12
 9c-16:1 0–0.1
 17:0 0–0.1
 18:0 0–12
 Total 18:1 8–40
 9c-18:1 9.5–13.7
 9c,12c-18:2 52–80
 Undefined 18:3 0.6–3
 20:0 0–1
 22:0 0–0.2

Sterol Composition, %

Cholesterol 16
 Brassicasterol
 Campesterol 7
 Stigmasterol 13
 Stigmasta-8,22-dien-3β-ol
 5α-Stigmasta-7,22-dien-3β-ol
 D7,25-Stigmastadienol
 β-Sitosterol 60
 D5-Avenasterol

D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	1500

References *J. Am Oil Chem. Soc.* 53: 680 (1976)
J. Am. Dietetic Assn. 73: 39 (1978)

Tomato Seed Oil

Lycopersicon lycopersicum/
L. esculentum

Specific Gravity (SG)	
15.5/15.5°C	0.919–0.925
25/25°C	0.918–0.920
Other SG	
Refractive Index (RI)	
25°C	1.4715–1.4728
40°C	1.466–1.468
Other RI	
Iodine Value	107–125
Saponification Value	183–198
Titer °C	
% Unsaponifiable	0.4–2.6
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.2
16:0	12–16.1
9c-16:1	0–0.6
18:0	4–7
Total 18:1	16–25
9c-18:1	20.8–23.8
9c,12c-18:2	50–60
Undefined 18:3	0–2.5
20:0	0–1.9
Total 20:1	0–0.2
22:0	0–0.2

Sterol Composition, %

Cholesterol	7–27
Brassicasterol	
Campesterol	4–7
Stigmasterol	7–17
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	54–73
D5-Avenasterol	0–8
D7-Stigmasterol	1
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	D7-Cholesterol, 1.5–4
% sterols in oil	
Total Sterols, mg/kg	

References *Riv. Ital Sost. Grasse* 65: 43 (1988)
Riv. Ital Sost. Grasse 52: 79 (1975)

Tonka Bean Oil

Dipteryx odorata/Erythrina spp.

Specific Gravity (SG)	
15.5/15.5°C	0.923
25/25°C	0.916
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.457–1.468
Other RI	
Iodine Value	72–79
Saponification Value	183–198
Titer °C	
% Unsaponifiable	0–1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.4
16:0	5–20
9c-16:1	0–1.1

18:0	3.9–11
Total 18:1	41.7–61
9c-18:1	36.4–64.1
Undefined 18:2	32.5
9c,12c-18:2	7–32.4
Undefined 18:3	0–1
20:0	1.7–4
11c-20:1	0–4.3
22:0	1.1–15
24:0	0–1

References *J. Am Oil Chem. Soc.* 37: 440 (1960)
Int. J Food Sci. Nutr. 52: 337–341 (2001)

Trapa Natans Oil

Trapa natans

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.5
16:0	0.5
16:1	6.4
18:0	0.2
Undefined 18:2	6.3
Undefined 18:3	6.4
20:0	1.5
20:5	0.4
22:0	0.2
7c,10c,13c,16c-22:4	0.3
15c-24:1	63.5

Sterol Composition, %	
Cholesterol	
Brassicasterol	
Campesterol	

Stigmasterol	
Stigmasta-8,22-dien-3β-ol	
5α-Stigmasta-7,22-dien-3β-ol	
D7,25-Stigmastadienol	
β-Sitosterol	
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	
24-Methylene Cholesterol	
Other	13.8
% sterols in oil	
Total Sterols, mg/kg	

References *Food Chem.* 123: 1252–1254 (2010)

Trichilia Emetica Seed Oil

Trichilia emetica

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.90–0.91
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	190–210
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	43–53
18:0	3
9c-18:1	51
9c,12c-18:2	16
Undefined 18:3	16

References *S. Afr. J. Bot.* 77: 920–933 (2011)

Trichosanthes Kirilowii Seed Oil

Trichosanthes kirilowii

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.1

16:0 4–5

17:0 0–0.1

18:0 3

9c-18:1 12–13.9

11c-18:1 0.7

9c,12c-18:2 37.6–38

9c,11t,13t-18:3 3

20:0 0–0.3

11c-20:1 0.2–0.5

24:0 0–0.2

Other 9c,11t,13c-18:3, 38 (punice);
9t,11t,13c-18:3, 2

References *J. Am Oil Chem. Soc.* 72: 1037
(1995)

Tucum (Aoiara) Kernel Oil

Astrocaryum spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (100/15) 0.865–0.867

Refractive Index (RI)

25°C

40°C 1.449–1.451

Other RI

Iodine Value 10–14

Saponification Value 240–250

Titer °C

% Unsaponifiable 0.3

Melting Point °C 30–33

Fatty Acid Composition (%)

6:0 0–0.2

8:0 1–2.9

10:0 2.3–4

12:0 49–51.8

14:0 22

16:0 6–6.8

18:0 2–2.3

Total 18:1 9.3–13

9c,12c-18:2 2–2.4

References

Tucum Pulp Oil

Astrocaryum vulgare

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 64

Saponification Value 189

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

12:0 0.2

14:0 0.5

16:0 30

18:0 2

Total 18:1 60

9c,12c-18:2 3

20:0 4

References *Riv. Ital. Sost. Grasse* 71: 425
(1994)

Food Chem. 30: 277 (1988)

Tung Oil*Aleurites cordata*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/4) 0.936–0.943
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.5020–1.5093
Iodine Value	163–171
Saponification Value	190–197
Titer °C	
% Unsaponifiable	0.4–0.8
Melting Point °C	

Fatty Acid Composition (%)**References****Tung Oil***Aleurites fordii*

Specific Gravity (SG)	
15.5/15.5°C	0.932–0.944
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.5180–1.5200
Iodine Value	147–172
Saponification Value	188–197
Titer °C	
% Unsaponifiable	0.4–1
Melting Point °C	
Solidification Point °C	–21 to –17

Fatty Acid Composition (%)

16:0	3.6–4.1
18:0	1.3–2.7
9c-18:1	8–14.9
9c,12c-18:2	10.9
9c,11t,13t-18:3	79.7

References**Tung Oil***Vernicia montana/Aleurites spp.*

Specific Gravity (SG)	
15.5/15.5°C	0.932–0.944
25/25°C	0.913–0.917
Other SG	(20/4) 0.936–0.943
Refractive Index (RI)	
25°C	1.514–1.520
40°C	
Other RI	(20) 1.5020–1.5200
Iodine Value	147–175
Saponification Value	188–197
Titer °C	
% Unsaponifiable	0–1
Melting Point °C	
Solidification Point °C	–21 to –17

Fatty Acid Composition (%)

16:0	2
18:0	3
Total 18:1	4–10
9c,12c-18:2	8–15
Undefined 18:3	2
9c,11t,13t-18:3	71–82

References FDA Tech. Report SCI-025-67**Turnip Seed Oil***Brassica rapa*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.1
16:0	1.8–5.7
9c-16:1	0.1–0.5

18:0	0.1–1.7
9c-18:1	11.7–57.9
9c,12c-18:2	10.5–24.9
Undefined 18:3	6.2–13.4
20:0	0.3–0.8
11c-20:1	8.6–12.3
22:0	0.2–0.7
13c-22:1	27.9–67
24:0	0.1–0.2
15c-24:1	1–1.6

References**Ucuhuba Butter Oil***Virola surinamensis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(100/15) 0.871
Refractive Index (RI)	
25°C	
40°C	
Other RI	(50) 1.4502–1.4525, (70) 1.4431–1.4446
Iodine Value	11–17
Saponification Value	221–229
Titer °C	
% Unsaponifiable	1–4
Melting Point °C	47

Fatty Acid Composition (%)

10:0	0–1
12:0	12.2–20
14:0	63.4–76.6
9c-14:1	0–0.9
16:0	3–9
9c-16:1	0–0.6
18:0	0–1
Total 18:1	6–8
9c-18:1	2.4–6.3
Undefined 18:2	0–2.9
9c,12c-18:2	0–5

References *J. Am. Dietetic Assn.* 68: 224 (1976)

Valeriane Oil*Centranthus ruber*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	12
18:0	6
9c-18:1	4
9c,12c-18:2	36

References**Vernonia Seed Oil***Vernonia anthelmintica*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(30/30) 0.9050
Refractive Index (RI)	
25°C	
40°C	
Other RI	(32) 1.4860
Iodine Value	55
Saponification Value	176
Titer °C	
% Unsaponifiable	1–2
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.2
16:0	2.8–7
9c-16:1	0–0.2
17:0	0–0.3
18:0	1.7–6
Total 18:1	1–6

9c-18:1	4.2
9c,12c-18:2	6.7-17
20:0	0-0.3
11c-20:1	0-0.3
22:0	0-0.2
24:0	0-0.2
26:0	3.4
Other . . . 12,13-Epoxy-octadeca-9-enoic, 62-76.8 (vernolic)	

References

Vernonia Seed Oil

Vernonia galamensis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0 2-4

18:0 2-3.9

Total 18:1 3.6-5.6

9c-18:1 4-6

9c,12c-18:2 9-14

Undefined 18:3 0-0.3

20:0 0.2-0.5

Total 20:1 0.2-0.4

Other . . . 12,13-Epoxy-octadeca-9-enoic,
72-81 (vernolic)

- References** E.H. Pryde, et al., eds., *New Sources Of Fats and Oils*, AOCS Press, Champaign, 1981, pp. 55
J. Am Oil Chem. Soc. 65: 942 (1988)
J. Liq. Chromatogr. 18: 4165 (1995)

Walnut Oil

Juglans regia

Specific Gravity (SG)

15.5/15.5°C 0.927-0.930

25/25°C 0.923-0.925

Other SG (20/4) 0.920-0.924

Refractive Index (RI)

25°C 1.472-1.475

40°C 1.4690-1.4710

Other RI (20) 1.4740-1.4770

Iodine Value 132-162

Saponification Value 188-197

Titer °C

% Unsaponifiable 0.2-0.5

Melting Point °C

Solidification Point °C -29 to -28

Fatty Acid Composition (%)

14:0 0-0.01

16:0 4-8.1

9c-16:1 0-0.2

18:0 0-3.7

Total 18:1 17-22.2

9c-18:1 14-30

11c-18:1 0-1.6

9c,12c-18:2 47-83

Undefined 18:3 3-16

20:0 0-0.1

Total 20:1 0.2-0.4

11c-20:1 0-0.6

22:0 0.1

Sterol Composition, %

Cholesterol

Brassicasterol

Campesterol 5

Stigmasterol

Stigmasta-8,22-dien-3 β -ol

5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

β -Sitosterol 89

D5-Avenasterol 5

D7-Stigmasterol

D7-Avenasterol

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene	
24-Methylene Cholesterol	
Other	
% sterols in oil	
Total Sterols, mg/kg	1760

Tocopherol Composition, mg/kg	
α-Tocopherol	10–28.7
β-Tocopherol	1–8.2
γ-Tocopherol	206.9–355
δ-Tocopherol	29.6–62.1
Total, mg/kg	309–455

- References** *JAOAC* 48: 902 (1965)
J. Am. Dietetic Assn. 73: 39 (1978)
J. Am Oil Chem. Soc. 53: 732 (1976)
Fat Sci. Technol. 93: 519 (1991)
J. Korean Soc. Food Nutr. 13: 263 (1984)
J. Am Oil Chem. Soc. 76: 1059–1063
 (1999)

Walnut, Persian/English Oil

Juglans regia

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)	
16:0	7.9–8.1
9c-16:1	0–0.2
18:0	0–3.7
9c-18:1	15.2–23.1
11c-18:1	0–1.6
9c,12c-18:2	50–60.6
Undefined 18:3	12.7–14.9
20:0	0–0.1
11c-20:1	0–0.6

References

Watercress Oil

Nasturtium officinale

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(20) 1.470
Iodine Value	99
Saponification Value	171
Titer °C	
% Unsaponifiable	1.1
Melting Point °C	
Solidification Point °C	–6 to –5

Fatty Acid Composition (%)

16:0	9
18:0	1.4–2
9c-18:1	31.3–34
9c,12c-18:2	22.7–23
Undefined 18:3	0.5–1.7
20:0	0–1
11c-20:1	11–11.3
22:0	0–0.5
13c-22:1	18–21.9

References

Watermelon Seed Oil

Citrullus lanatus/C. vulgaris

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.919–1.930
Other SG	(20) 0.906
Refractive Index (RI)	
25°C	1.4711–1.4745
40°C	
Other RI	(20) 1.4669–1.4748
Iodine Value	119.8–156.2
Saponification Value	173.2–204.44
Titer °C	
% Unsaponifiable	0.5–3.2

Melting Point °C

Fatty Acid Composition (%)

10:0	0–0.5
12:0	0–0.7
14:0	0–1
15:0	tr
16:0	8.8–15.7
9c-16:1	0.07–1
18:0	5–13.8
Total 18:1	13–19
9c-18:1	10.2–24.8
9c,12c-18:2	56.8–71.3
Undefined 18:3	0.15–1.6
9c,12c,15c-18:3	0.2
20:0	0–1
9c-20:1	0.09–0.11
11c-20:1	0–0.1
22:0	0.04–0.08
13c-22:1	0.03–0.11
24:0	0.8

Tocopherol Composition, mg/kg

α-Tocopherol	1.05–1.97
β-Tocopherol	
γ-Tocopherol	52.71–82.22
δ-Tocopherol	0.62–0.76
Total, mg/kg	59.51–79.8

References *J. Am Oil Chem. Soc.* 69:

314–315 (1992)

J. Am Oil Chem. Soc. 88: 1709–1714
(2011)*J. Am Oil Chem. Soc.* 87: 667–671 (2010)*S. Afr. J. Bot.* 77: 920–933 (2011)**Welwitschia Mirabilis Seed Oil***Welwitschia mirabilis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable 2

Melting Point °C

Fatty Acid Composition (%)

10:0	5.1
12:0	5
14:0	0.2–5
15:0	0.1
16:0	1.6–11.3
9c-16:1	0.01
11c-16:1	0.7
17:0	0.6
18:0	2.7–7.2
9,10 epoxy-18:0	0.2
9c-18:1	11.1–43.7
11c-18:1	1.7
5,9–18:2	0.3
9c,12c-18:2	15.1–18.7
9c,12c,15c-18:3	33.5
5,9c,12c,15c-18:4	0.1
19:0	tr
20:0	0.2–1.6
11c-20:1	0.1
22:0	0.2–2
24:0	0.3

References *J. Am Oil Chem. Soc.* 75:

1761–1765 (1998)

**Western Soapberry Seed Fat
(Wild Chinaberry)***Sapindus drummondii*

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.903–0.917

Other SG

Refractive Index (RI)

25°C 1.4686–1.4722

40°C

Other RI

Iodine Value 82–89

Saponification Value 192–219

Titer °C

% Unsaponifiable 1

Melting Point °C

Fatty Acid Composition (%)

16:0	5
18:0	tr
Total 18:1	55
9c-18:1	55
9c,12c-18:2	16
Undefined 18:3	4
20:0	3
Total 20:1	17
11c-20:1	17

References *Fat Sci. Technol.* 96: 69 (1994)

Lipids 2: 258 (1967)

Wheat Germ Oil

Triticum aestivum/*T. durum*

Specific Gravity (SG)

15.5/15.5°C 0.928–0.938

25/25°C 0.925–0.933

Other SG

Refractive Index (RI)

25°C 1.474–1.483

40°C 1.469–1.478

Other RI (20) 1.4762–1.4851

Iodine Value 100–129

Saponification Value 179–217

Titer °C

% Unsaponifiable 1.59–7.28

Melting Point °C

Fatty Acid Composition (%)

14:0 0–0.2

16:0 12–20

9c-16:1 0.2–0.5

18:0 0.3–3

Total 18:1 13–23

9c-18:1 30

Undefined 18:2 54.8

9c,12c-18:2 44.1–59

Undefined 18:3 2–10.8

20:0 0.3

Total 20:1 0.3

22:0 0–0.1

Unidentified 22:1 0.3

24:0 0–1

Sterol Composition, %

Cholesterol

Brassicasterol 0–0.4

Campesterol 19–29

Stigmasterol 0.3–4

Stigmasta-8,22-dien-3 β -ol

5 α -Stigmasta-7,22-dien-3 β -ol

D7,25-Stigmastadienol

β -Sitosterol 56–67

D5-Avenasterol 2–6

D7-Stigmasterol 1–4

D7-Avenasterol 2

D7-Campesterol

D7-Ergosterol

D7,25-Stigmasterol

Sitostanol

Spinasterol

Squalene

24-Methylene Cholesterol

Other Cholesterol, 0.1–0.4;

campestanol, 1–2

% sterols in oil

Total Sterols, mg/kg 5500

Tocopherol Composition, mg/kg

α -Tocopherol 166–3100

β -Tocopherol 66.6–1150

γ -Tocopherol 18–950

δ -Tocopherol 20–100

Total, mg/kg 1350–2500

Tocotrienols Composition, mg/kg

α -Tocotrienol 10–200

β -Tocotrienol 10–200

γ -Tocotrienol

δ -Tocotrienol

Total Tocotrienols, mg/kg 20–400

References *Riv. Ital. Sost. Grasse* 60: 195 (1983)

J. Am Oil Chem. Soc. 63: 328 (1986)

Riv. Ital. Sost. Grasse 54: 177 (1977)

J. Sci. Food Agric. 31: 997 (1980)

Y. Pomeranz, ed., *Wheat: Chemistry and Technology*, Vol 1, AACC, MN, 1988

J. Am Oil Chem. Soc. 77: 969–974 (2000)

Wild Angelica Seed Oil

Angelica sylvestris

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

Fatty Acid Composition (%)

16:0	4.6–5.7
18:0	0.8–1.8
9c-18:1	9–18.6
6c-18:1	42.1–44.9
11c-18:1	0–1.6
9c,12c-18:2	33.2–38.3
Undefined 18:3	0–1.4
20:0	0–0.5
11c-20:1	0–0.2

References**Wild Mustard Oil***Sinapis arvensis*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	1.462
Other RI	
Iodine Value	77–89
Saponification Value	187–200
Titer °C	
% Unsaponifiable	0.4
Melting Point °C	

Fatty Acid Composition (%)

14:0	0–0.3
16:0	2–5
9c-16:1	0–0.3
18:0	0.7–2.1
9c-18:1	10.2–33.9

9c,12c-18:2	12.3–24.5
Undefined 18:3	9.2–24.5
20:0	0–0.9
11c-20:1	11.9–16.1
22:0	0–0.5
13c-22:1	6.5–47.2
24:0	0.3–5
15c-24:1	1–1.8

References**Winged Bean Oil***Psophocarpus tetragonolobus*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.911–0.914, (40/20) 0.897–0.900
Refractive Index (RI)	
25°C	
40°C	1.4628–1.4633
Other RI	(20) 1.4699–1.4703
Iodine Value	81–86
Saponification Value	186–187
Titer °C	
% Unsaponifiable	0.3–1
Melting Point °C	

Fatty Acid Composition (%)

14:0	0.1
16:0	8.4–12.6
9c-16:1	0–0.2
17:0	0.1
18:0	3.5–8
Total 18:1	35–41
9c-18:1	33–41
Undefined 18:2	31.4
9c,12c-18:2	15–33
Undefined 18:3	1–2.6
20:0	0.2–4
11c-20:1	0–3.2
22:0	4–20
Unidentified 22:1	0.1–0.7
13c-22:1	0–0.9
24:0	0.7–5

Sterol Composition, %
Cholesterol

Brassicasterol	
Campesterol	6
Stigmasterol	34–38
Stigmasta-8,22-dien-3 β -ol	
5 α -Stigmasta-7,22-dien-3 β -ol	
D7,25-Stigmastadienol	
β -Sitosterol	40–42
D5-Avenasterol	
D7-Stigmasterol	
D7-Avenasterol	
D7-Campesterol	
D7-Ergosterol	
D7,25-Stigmasterol	
Sitostanol	
Spinasterol	
Squalene	0.3
24-Methylene Cholesterol	
Other	C31,C32 Hydrocarbons, 2–4; triterpenes, 4–6
% sterols in oil	
Total Sterols, mg/kg	

- References** *J. Am Oil Chem. Soc.* 56: 931 (1979)
J. Am Oil Chem. Soc. 59: 523 (1982)
J. Nutr. Sci. Vitaminol. 33: 49 (1987)
Int. J Food Sci. Nutr. 52: 337–341 (2001)

Winter Squash Oil

Cucurbita maxima

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	2.1
Melting Point °C	

Fatty Acid Composition (%)

16:0	13.1–16
18:0	5.9–6

9c-18:1	34.9–47
9c,12c-18:2	31–45.4

References

Woad Oil

Isatis tinctoria

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	

Fatty Acid Composition (%)

16:0	6
18:0	2
9c-18:1	16
9c,12c-18:2	12
Undefined 18:3	28
20:0	2
11c-20:1	13
13c-22:1	20
15c-24:1	1

References

Yam Bean

Pachyrhizus spp.

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	1.4700
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	92
Saponification Value	183

Titer °C

% Unsaponifiable

Melting Point °C

Fatty Acid Composition (%)

16:0	24–31.4
18:0	3.9–7.5
Total 18:1	12.66–27
9c-18:1	21–28.6
11c-18:1	0.58–0.85
Undefined 18:2	36–62.48
9c,12c-18:2	34.9–40.7
Undefined 18:3	0.9–16.17
Total 20:1	0.06–0.14

Tocopherol Composition, mg/kg

α -Tocopherol	0.4–5
β -Tocopherol	
γ -Tocopherol	94.5–98.5
δ -Tocopherol	0.2–1.4
Total, mg/kg	285–684

Tocotrienols Composition, mg/kg

α -Tocotrienol	0–9.7
β -Tocotrienol	
γ -Tocotrienol	90.1–100
δ -Tocotrienol	0–2.5
Total Tocotrienols, mg/kg	249.3–896.2

References *J. Am Oil Chem. Soc.* 76: 1309 (1999)

Characteristics of Oils and Fats of Animal Origin

Alewife Oil*Alosa pseudoharengus*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

16:1 16

Unassigned 18:1 24

18:2 2

18:3 2

20:4 4

20:5 9

22:6 9

References *J. Food Comp. Anal.* 2: 13
(1989)**Anchovy Oil**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 163-199

Saponification Value 191-194

Titer °C

% Unsaponifiable 0.3-3

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 0.4-11.5

15:0 0-1.5

16:0 14-22

16:1 5-12

17:0 0-2

18:0 1-7

Unassigned 18:1 9-14

9c-18:1 5-17

18:2 0-3.5

18:3 0-7

6c,9c,12c-18:3 (n-6) 0-5

6c,9c,12c,15c-18:4 (n-3) 0-5

20:1 2-8

20:1 (n-9) 0-4

11c-20:1 (n-11) 0-4

8c,11c,14c,17c-20:4 (n-3) 0-2

5c,8c,11c,14c-20:4 (n-6) 0-2

20:5 5-26

6c,9c,12c,15c,17c-20:5 10-20

21:5 0-4

22:1 2-4

22:1 (n-9) 0-5

22:1 (n-11) 0-5

7c,10c,13c,16c,19c-22:5 (n-3) 0-4

4c,7c,10c,13c,16c,19c-22:6 4-23

Other 3-10

References**Bass, Rock Oil***Ambloplites rupestris*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	19
16:1	9
18:0	4-5
Unassigned 18:1	18
18:2	2
18:3	2
5c,8c,11c,14c-20:4 (n-6)	8
20:5 (n-3)	4
4c,7c,10c,13c,16c-22:5 (n-6)	2
7c,10c,13c,16c,19c-22:5 (n-3)	21

References *J. Am Oil Chem. Soc.* 54: 424
(1977)

Bass, Sea*Dicentrarchus labrax*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
15:0	1
16:0	17
16:1	7
18:0	4

Unassigned 18:1

18:2

20:1

5c,8c,11c,14c-20:4 (n-6)

20:5 (n-3)

7c,10c,13c,16c,19c-22:5 (n-3)

22:6 (n-3)

Other

References *J. Agric. Food Chem.* 55: 15
(2007)

Bass, Sea (Farmed)*Dicentrarchus labrax*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0

16:0

16:1 (n-7)

18:0

Unassigned 18:1 (n-7)

9c-18:1

18:2 (n-6)

20:1 (n-9)

5c,8c,11c,14c-20:4 (n-6)

20:5 (n-3)

22:1 (n-11)

4c,7c,10c,13c,16c-22:5 (n-6)

7c,10c,13c,16c,19c-22:5 (n-3)

References *J. Agric. Food Chem.* 55: 15 (2007)

Bass, Sea (Wild)

Dicentrarchus labrax

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 3.1–4.5

16:0 17.5–20.5

16:1 (n-7) 5.6–7.6

18:0 4.3–5.1

Unassigned 18:1 (n-7) 17.4–19.4

9c-18:1 16.2–21

18:2 (n-6) 0.9–1.5

20:1 (n-9) 2.9–4.9

5c,8c,11c,14c-20:4 (n-6) 1–2.2

20:5 (n-3) 8.1–9.1

22:1 (n-11) 2.2–5.8

4c,7c,10c,13c,16c-22:5 (n-6) 19–26

7c,10c,13c,16c,19c-22:5 (n-3) . . . 1.9–2.3

References *J. Agric. Food Chem.* 55: 15 (2007)

Beef Brisket Fat

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 3.22

14:1 (n-5) 1.91

16:0 24.3

16:1 (n-7) 7.22

18:0 8.35

9c-18:1 43.1

11c-18:1 2.33

18:2 (n-6) 1.63

References *Meat Sci.* 81: 658–663 (2009)

Beef Chuck Fat

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 3.43

14:1 (n-5) 1.58

16:0	26.4
16:1 (n-7)	5.57
18:0	10.8
9c-18:1	40.2
11c-18:1	1.55
18:2 (n-6)	1.86

References *Meat Sci.* 81: 658–663 (2009)

Beef Flank Fat

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C
% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	1–5
14:1	0–1.6; (n-5), 1.07
16:0	14–45
16:1	2–8
16:1 (n-7)	3.19
18:0	9–20
Unassigned 18:1	28–64
9c-18:1	36.8
11c-18:1	1.09
18:2	1–3; (n-6), 1.95
18:3	0–1.4
5c,8c,11c,14c-20:4 (n-6)	0–0.8
Other	16:1t, 0–0.8; 18:1t, 0.8–5; other 1–4.3
Cholesterol	(600 mg/kg)

References USDA, *Agriculture Handbook* 8–17 (1989)
J. Am Oil Chem. Soc. 75: 1001 (1998)

Meat Sci. 81: 658–663 (2009)

Beef Loin Fat

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C
% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	3.68
14:1(n-5)	1.38
16:0	27
16:1 (n-7)	4.46
18:0	12.7
9c-18:1	38.4
11c-18:1	1.22
18:2 (n-6)	1.97

References *Meat Sci.* 81: 658–663 (2009)

Beef Plate Fat

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C

% Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	3.58
14:1 (n-5)	1.40
16:0	26
16:1 (n-7)	4.49
18:0	12.3
9c-18:1	39.5
11c-18:1	1.33
18:2 (n-6)	1.98

References *Meat Sci.* 81: 658–663 (2009)

Beef Rib Fat

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	3.59
14:1 (n-5)	1.26
16:0	27.3
16:1 (n-7)	4.21
18:0	13.5
9c-18:1	38.4
11c-18:1	1.17
18:2 (n-6)	1.95

References *Meat Sci.* 81: 658–663 (2009)

Beef Round Fat

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	3.49
14:1 (n-5)	1.46
16:0	25.9
16:1 (n-7)	5.14
18:0	10.9
9c-18:1	41.0
11c-18:1	1.38
18:2 (n-6)	1.76

References *Meat Sci.* 81: 658–663 (2009)

Beef Sirloin Fat

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	3.54
14:1 (n-5)	1.49
16:0	26.9
16:1 (n-7)	5.04
18:0	11.3
9c-18:1	39.8
11c-18:1	1.34
18:2 (n-6)	1.87

References *Meat Sci.* 81: 658–663 (2009)

Butterfat

Specific Gravity (SG)

15.5/15.5°C 0.930–0.940

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C 1.453–1.457

Other RI

Iodine Value 25–42

Saponification Value 210–254

Titer °C 33–38

% Unsaponifiable 0–0.5

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

4:0	0–3.8
6:0	0–2.3
8:0	0–1.1
10:0	1.7–3.2
11:0	0–0.1
12:0	2.2–4.5
13:0	0–0.1
14:0	5.4–14.6
14:1	0.6–1.6
15:0	0–1.6
16:0	25–41
16:1	1.9–6
17:0	0–0.7

17:1 0–0.2

18:0 6–12.5

Unassigned 18:1 18.7–33.4

18:2 0.9–3.7

18:3 0–0.5

20:0 1.2–2.4

20:1 0–0.2

20:4 0–0.1

Other 4:0, 2.8–4; 6:0, 1.4–3.0; 8:0, 0.5–1.7

References *J. Am. Oil Chem. Soc.* 52: 154

(1975)

J. Am. Oil Chem. Soc. 70: 1161 (1993)

Capelin Oil

Mallotus villosus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (50) 1.4620–1.4645

Iodine Value 94–164

Saponification Value 185–202

Titer °C

% Unsaponifiable 1–5

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	5–9
15:0	0–0.5
16:0	8–13
16:1	5–12.5
18:0	0.5–2
Unassigned 18:1	12–18
9c-18:1	12–18
18:2	1–2
18:3	0–1
6c,9c,12c,15c-18:4 (n-3)	2–7
18:4	0–7

20:1	9-27
20:1 (n-9)	15-20
20:2	0-1
8c,11c,14c,17c-20:4 (n-3)	0-1
5c,8c,11c,14c-20:4 (n-6)	0-2
20:5	4-9
6c,9c,12c,15c,17c-20:5	3-12
21:5	0-1
22:1	9-25
22:1 (n-11)	13-20
22:2	0-1
7c,10c,13c,16c,19c-22:5 (n-3)	0-1
4c,7c,10c,13c,16c,19c-22:6	1-11
Other	3-6

References

Carp Lipids

Cyprinus carpio

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0..... 0.57-3

16:0..... 14.72-20

16:1..... 3.09-17

17:0..... 1-2

18:0..... 4-5.63

Unassigned 18:1..... 23-28

9c-18:1..... 32.27-39

11c-18:1..... 1.71-2.8

18:2..... 4-13

18:3..... 2-6

18:3 (n-3)..... 1.36-2.79

6c,9c,12c,15c-18:4 (n-3)..... 0.2

20:1..... 1-4

20:2..... 0.52-0.83

20:3 (n-6)..... 0.91-1.97

11c,14c,17c-20:3 (n-3)..... 0.14-0.7

5c,8c,11c,14c-20:4 (n-6)..... 3-4

20:5 (n-3)..... 0.6-0.77

6c,9c,12c,15c,17c-20:5..... 3-6

7c,10c,13c,16c-22:4..... 2

7c,10c,13c,16c,19c-22:5 (n-3).....

0.17-0.37

22:6 (n-3)..... 0.15-0.55

4c,7c,10c,13c,16c,19c-22:6..... 5

Cholesterol..... 13.2-65.46 (mg/100g)

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC (1976)

Bull. Korean Fish Soc. 19: 195 (1986)

Prog. Lipid Res. 26: 281 (1987)

Anal. Chim. Acta 672: 66-71 (2010)

Catfish Lipids

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0..... 1-2

16:0..... 15-22

16:1..... 3-6

18:0	4-9
Unassigned 18:1	30-50
18:2	10-16
18:3	0.5-3
18:4	0.4-1
20:1	1-2
5c,8c,11c,14c-20:4 (n-6)	1-6
6c,9c,12c,15c,17c-20:5	0.2-2.5
7c,10c,13c,16c,19c-22:5 (n-3)	0.2-1.3
4c,7c,10c,13c,16c,19c-22:6	0.6-6
Cholesterol	1-5 (30-56 mg% in muscle)

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC (1976)

Chicken Egg Lipids, Whole Egg

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

16:0	2.5
18:0	0.9
Unassigned 18:1	4
18:2	1.2
18:3	0.03
5c,8c,11c,14c-20:4 (n-6)	0.1
Cholesterol	.99 (5480 mg/kg)

References USDA, *Agriculture Handbook* 8-1 (1976)

Chicken Egg Lipids, Yolk

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	0.1
16:0	7.3
16:1	1.1
18:0	2.5
Unassigned 18:1	12.1
18:2	3.7
18:3	0.1
5c,8c,11c,14c-20:4 (n-6)	0.3
Cholesterol	.99 (16000 mg/kg)

References USDA, *Agriculture Handbook* 8-1 (1976)

Chicken Fat

Gallus gallus domesticus

Specific Gravity (SG)	15.5/15.5°C	0.914-0.924
	25/25°C	
	Other SG	
Refractive Index (RI)	25°C	
	40°C	1.452-1.460
	Other RI	
Iodine Value		76-80
Saponification Value		194-204
Titer °C		32-36
% Unsaponifiable		

Melting Point °C	30–34
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

12:0	0.1–0.2
14:0	0.9–1.3
14:1	0–0.2
16:0	21.6–23.2
16:1	5.7–6.5
17:0	0–0.3
17:1	0–0.1
18:0	6–6.4
Unassigned 18:1	37–41.6
18:2	18.9–20
18:3	1–1.3
20:1	1–1.1
20:4	0–0.1
Cholesterol	.99 (850 mg/kg)

References USDA, *Agriculture Handbook* 8–4 (1979)

Chinook Salmon Lipids

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	5.0–5.4
16:0	20.7–21.3
16:1	8.2–8.8

18:0	4.6–4.8
9c-18:1	23.2–24.3
11c-18:1	5.9–6.5
18:2	0.7–1.3
18:3	0.3–1.1
8c,11c,14c-20:3	0.1–0.2
5c,8c,11c,14c-20:4 (n-6)	5.6–5.9
6c,9c,12c,15c,17c-20:5	7.6–8.0
7c,10c,13c,16c,19c-22:5 (n-3)	2.3–3.7
4c,7c,10c,13c,16c,19c-22:6	9.5
24:0	0–0.1
24:1	0.4–1.0

References *J. Food Comp. Anal.* 4: 128 (1991)

Cod Liver Oil

Specific Gravity (SG)	
15.5/15.5°C	0.922–0.928
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.478–1.485
40°C	
Other RI	
Iodine Value	142–176
Saponification Value	180–192
Titer °C	18–24
% Unsaponifiable	0–2
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	2–6
15:0	0–0.5
16:0	4–14
16:1	4.5–12
16:2	0.3–1
17:0	0.1–1
18:0	1–4
Unassigned 18:1	19–27
9c-18:1	12–21
11c-18:1	5–7
18:2	0.5–3
18:3	0–2

6c,9c,12c,15c-18:4 (n-3)	0.4–4.5
18:4	0.4–2.4
20:1	7–15
20:1 (n-9)	1–17
11c-20:1 (n-11)	1–5.5
20:2	0.1–0.4
20:4	0–0.9
8c,11c,14c,17c-20:4 (n-3)	0–2
5c,8c,11c,14c-20:4 (n-6)	0–2
20:5	7–16
6c,9c,12c,15c,17c-20:5	6.9–14
21:5	0–1.5
22:1	4–13
22:1 (n-9)	0–1.5
22:1 (n-11)	5–12
22:4	0.5
7c,10c,13c,16c-22:4	0.5
7c,10c,13c,16c,19c-22:5 (n-3)	0.5–3
4c,7c,10c,13c,16c,19c-22:6	5–18
24:1	0.2–0.7
Other	16:3, 0.2–0.6; 17:1, 0.1–0.6; 8c,11c,14c,17c-20:4, 0.3–0.6; 4c,7c,10c,13c,16c-22:5, 0.4–1

References *J. Fisheries Res. Bd. Can.* 24: 613 (1967)
J. Am Oil Chem. Soc. 72: 575 (1995)

Cod, Atlantic

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C
% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	0.5–5.2
16:0	14.7–22
16:1	2–5.6
18:0	2.1–5
Unassigned 18:1	10–14.5
18:2	1; (n-6), 5–5.5
18:3 (n-3)	1.4
20:1	2–9.1
20:2	0.8
5c,8c,11c,14c-20:4 (n-6)	0.5–1.5
20:5 (n-3)	7.5
6c,9c,12c,15c,17c-20:5	16
22:1	2–12.4
7c,10c,13c,16c,19c-22:5 (n-3)	0.7
22:6 (n-3)	10.2–10.3
4c,7c,10c,13c,16c,19c-22:6	36

References *J. Food Sci.* 52: 1209 (1987)
Aquaculture 281: 87–94 (2008)

Cod, Pacific

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C
% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	1
16:0	18
16:1	4
18:0	5
Unassigned 18:1	13
18:2	2
20:1	2

20:2	1
20:4	1
6c,9c,12c,15c,17c-20:5	16
7c,10c,13c,16c,19c-22:5 (n-3)	2
4c,7c,10c,13c,16c,19c-22:6	28

References *J. Food Sci.* 52: 1209 (1987)

Crab Lipids, King

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	1–1.5
16:0	9–15.9
16:1	5
16:1 (n-7)	2.1–2.7
18:0	3.4–4
Unassigned 18:1	15
18:2	3; (n-6), 3.7–4.1
18:3	3
18:3 (n-3)	1.7–3.1
18:4	2
20:1	4
5c,8c,11c,14c-20:4 (n-6)	0.6–2.6
20:5 (n-3)	17.3–19.5
6c,9c,12c,15c,17c-20:5	22
7c,10c,13c,16c,19c-22:5 (n-3)	1
22:6 (n-3)	17.43–18.2
4c,7c,10c,13c,16c,19c-22:6	10

References Ackman, R.G., In *Objective Methods for Food Analysis*, National

Academy of Sciences, Washington, DC (1976)

J. Shellfish Res. 31: 153–165 (2012)

Crab Lipids, Queen

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	0.5
16:0	14
16:1	6
18:0	2
Unassigned 18:1	22
18:2	1
18:3	0.2
18:4	0.1
20:1	3
5c,8c,11c,14c-20:4 (n-6)	4
6c,9c,12c,15c,17c-20:5	31
7c,10c,13c,16c,19c-22:5 (n-3)	1
4c,7c,10c,13c,16c,19c-22:6	13

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC (1976)

Dogfish, Birdbeak Muscle Oil

Deania calceus

Specific Gravity (SG)

15.5/15.5°C
25/25°C
Other SG
Refractive Index (RI)
25°C
40°C
Other RI
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable
Melting Point °C
% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	0.6
16:0	13
16:1	2
16:2 (n-6)	0.6
16:2 (n-4)	0.3
16:3 (n-4)	0.4
18:0	5
Unassigned 18:1	17
18:2	2
18:3	0.3
6c,9c,12c,15c-18:4 (n-3)	0.6
20:1 (n-9)	6
20:2	0.4
5c,8c,11c,14c-20:4 (n-6)	3
20:5 (n-3)	1
22:1	6
4c,7c,10c,13c,16c,19c-22:6	30
24:1	0.2

References *J. Am Oil Chem. Soc.* 70: 1081 (1993)

Dogfish, Sping Liver Oil*Centroscyllium ritteri*

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG (15/4) 0.8875
Refractive Index (RI)
25°C

40°C
Other RI (20) 1.4765
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable 56
Melting Point °C
% Hydrocarbons 63
% Sterols 3
% Squalene 96.8
% Pristane

Fatty Acid Composition (%)

14:0	4
14:1	0.7
15:0	0.7
16:0	19
16:1	7
17:0	1.5
18:0	5
Unassigned 18:1	48
18:2	1.2
19:0	3
20:0	1.6
20:1	0.2

References *inform 9*: 794 (1998)

Dogfish, Spur Liver Oil*Squalus acanthias*

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG (15/4) 0.9191
Refractive Index (RI)
25°C
40°C
Other RI (20) 1.4763
Iodine Value
Saponification Value
Titer °C
% Unsaponifiable 8–13
Melting Point °C
% Hydrocarbons 3
% Sterols 8
% Squalene 0.3–65
% Pristane 0.2–35

Fatty Acid Composition (%)

8:0	0.1
10:1	0.2
11:1	0.1
12:1	0.1
14:0	4
14:1	0.8
15:0	0.6-1
16:0	7-18
16:1	6-17
17:0	0.5
18:0	0.4-1
Unassigned 18:1	22-54
18:2	1-3
18:3	0.5
18:4	0.5
19:0	1
20:1	7-14
20:5	4
21:0	0.3
22:1	17
22:4	0.5
22:5	0.5
22:6	9

References *inform* 9: 794 (1998)

J. Am Oil Chem. Soc. 46: 554 (1969)

Dolphin Dorsal Blubber*Inia geoffrensis*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

10:0	0.2
12:0	1.4
12:1	0.5
14:0	6
14:1	3
16:0	22
16:1	20
16:2	0.4
17:0	0.8
18:0	3
Unassigned 18:1	24
18:2	6
20:1	0.4
20:2	0.2
8c,11c,14c-20:3	1
5c,8c,11c,14c-20:4 (n-6)	1
6c,9c,12c,15c,17c-20:5	0.1
7c,10c,13c,16c,19c-22:5 (n-3)	0.1
4c,7c,10c,13c,16c,19c-22:6	0.1
Other	19:0, 0.1; See ref. for ISO + ANTISO content and others, 4.5

References *Lipids* 6: 69 (1971)

Dover Sole Lipids

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	4.6-5.2
16:0	20-21
16:1	4.3-4.7

18:0	6.3–6.7
9c-18:1	8.0–8.4
11c-18:1	4.2–4.6
18:2	0.2–1
18:3	0–1
20:0	0–1.4
20:1	1.4–1.5
8c,11c,14c-20:3	0.2
5c,8c,11c,14c-20:4 (n-6)	5.3–5.7
6c,9c,12c,15c,17c-20:5	16.5–17.4
7c,10c,13c,16c,19c-22:5 (n-3)	5.1–5.9
4c,7c,10c,13c,16c,19c-22:6	17.3–18.3
24:1	1–4

References *J. Food Comp. Anal.* 4: 128 (1991)

Duck Fat

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	0.7
16:0	24.7
16:1	4
16:1 (n-7)	0.018
18:0	7.8
Unassigned 18:1	44.2
18:2	12
18:3	1
20:1	1.1

References

Eel Lipids

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	6
16:0	14
16:1	12
18:0	1
Unassigned 18:1	28
18:2	1
20:1	28
5c,8c,11c,14c-20:4 (n-6)	0.5
6c,9c,12c,15c,17c-20:5	1
7c,10c,13c,16c,19c-22:5 (n-3)	1
4c,7c,10c,13c,16c,19c-22:6	0.5

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC (1976)

Emu Oil

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	40–80

Saponification Value	175–210
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	0.3–0.6
16:0	19–25
16:1	2–5
17:0	0.1
18:0	8–11
Unassigned 18:1	41–54
18:2	9–22
18:3	0.2–1.5
20:2	0.1
5c,8c,11c,14c-20:4 (n-6)	0.2

References *Ostrich News*, 1997, pp. 43

Ghee (Buffalo Milk) Butter

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	28–32
Saponification Value	225–235
Titer °C	
% Unsaponifiable	5
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

Other	saturates, 62–69%
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References

Goose Fat

Specific Gravity (SG)	
15.5/15.5°C	0.923–0.930
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.458–1.463
40°C	1.459–1.466
Other RI	
Iodine Value	66–73
Saponification Value	193–198
Titer °C	34–41
% Unsaponifiable	1
Melting Point °C	28–34
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	0.5
16:0	20.7–21
16:1	2.8–3
18:0	6–6.1
Unassigned 18:1	53.5–54
18:2	9.8–10
18:3	0.5
20:1	0.1
Cholesterol	.99 (1000 mg/kg)

References USDA, *Agriculture Handbook* 8–4 (1979)

Guinea Fowl Egg Fat*Numida meleagris*

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	

Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0 0.1–0.5
 16:0 32–34
 16:1 1–2
 18:0 15–16
 Unassigned 18:1 28–29
 18:2 16–18
 5c,8c,11c,14c-20:4 (n-6) 3–5
 Cholesterol (whole egg,
 550–560 mg/kg; yolk, 1530–1830
 mg/kg)

References *Food Chem.* 30: 211 (1988)

Haddock

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0 1
 16:0 22
 16:1 5
 18:0 5
 Unassigned 18:1 14
 18:2 2
 6c,9c,12c,15c-18:4 (n-3) 3
 20:1 3

5c,8c,11c,14c-20:4 (n-6) 2
 6c,9c,12c,15c,17c-20:5 15
 22:5 (n-3) 1
 4c,7c,10c,13c,16c,19c-22:6 25

References *J. Food Sci.* 52: 1209 (1987)

Halibut, Greenland Oil

Reinhardtius hippoglossoides

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0 5
 16:0 21
 16:1 10
 18:0 2
 Unassigned 18:1 15
 18:2 1
 18:3 1
 6c,9c,12c,15c-18:4 (n-3) 2
 20:1 (n-9) 11
 20:2 0.3
 6c,9c,12c,15c,17c-20:5 6
 22:1 9
 7c,10c,13c,16c,19c-22:5 (n-3) 1
 4c,7c,10c,13c,16c,19c-22:6 6

References *J. Am Oil Chem. Soc.* 70: 1081
 (1993)

Herring Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.9162
Refractive Index (RI)	
25°C	1.4730–1.4750
40°C	
Other RI	
Iodine Value	115–160
Saponification Value	161–192
Titer °C	
% Unsaponifiable	0.5–2.5
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

12:0	0–0.2
14:0	3–10
15:0	0–0.5
16:0	8–25
16:1	3–12
17:0	0–0.5
18:0	0.5–4
Unassigned 18:1	5–22
9c-18:1	4–22
18:2	0–2
18:3	0–2
6c,9c,12c-18:3 (n-6)	0–2
6c,9c,12c,15c-18:4 (n-3)	0.5–5
18:4	1–5
20:1	6–20
20:1 (n-9)	8.5–14
20:2	0.5–0.7
20:4	0.3–0.5
8c,11c,14c,17c-20:4 (n-3)	0–1.5
5c,8c,11c,14c-20:4 (n-6)	0–0.5
20:5	4–15
6c,9c,12c,15c,17c-20:5	4–15
21:5	0–1
22:1	4–31
22:1 (n-11)	11–27
22:2	0.4–1
22:5	0.5–1.3
7c,10c,13c,16c,19c-22:5 (n-3)	0–1.5
22:6	2–10

4c,7c,10c,13c,16c,19c-22:6	2–12
24:1	0.2–1.3
Other	24:5, 0–0.5

References *J. Am. Oil Chem. Soc.* 75: 581 (1998)
 Stansby, M.E., et al., In *Fish Oils in Nutrition*, (Stansby, M.E., ed.), van Nostrand Reinhold, NY, 1990, pp. 30

Horse Fat

Specific Gravity (SG)	
15.5/15.5°C	0.918–0.922
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	1.465–1.470
40°C	1.462
Other RI	
Iodine Value	72–84
Saponification Value	195–199
Titer °C	34–38
% Unsaponifiable	
Melting Point °C	36–48
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	2
14:1	1
16:0	30
18:0	4
Unassigned 18:1	33
18:2	4
18:3	16
20:0	0.2
Other	3

References Pearson, A.M., In *Advances in Food Research*, (Chichester, C.O., ed), Vol. 23, Academic Press, NY, 1977, pp. 28

Krill Oil*Euphausia superba*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 0–9.5

15:0 0–0.3

16:0 6–18.5

16:1 0–5.5

17:0 0–2

18:0 0.5–2

9c-18:1 2.5–11

18:2 0–2

18:3 0–1.5

6c,9c,12c-18:3 (n-6) 0–0.5

6c,9c,12c,15c-18:4 (n-3) 0–3.5

20:1 (n-9) 0–3.5

8c,11c,14c,17c-20:4 (n-3) 0–1

5c,8c,11c,14c-20:4 (n-6) 0–1.5

20:5 >9

21:5 0–2

22:1 (n-9) 0–2

22:1 (n-11) 0–2

7c,10c,13c,16c,19c-22:5 (n-3) 0–2.5

4c,7c,10c,13c,16c,19c-22:6 >4

References**Lamb Shoulder Fat**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

12:0 0–1.1

14:0 2.1–10.4

16:0 12.2–63.1

16:1 0.8–6.5

18:0 8–42

Unassigned 18:1 16–90

18:2 1–4

18:3 0–2

Other 16:1t, 0–1.4; 18:1t, 2–8;

18:2c,t, 0–0.5

Cholesterol (700–800 mg/kg)

References USDA, *Agriculture Handbook*
8–17 (1989)*J. Am Oil Chem. Soc.* 75: 1001 (1998)**Lard (Rendered Pork Fat)**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (20/20) 0.894–0.906

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.448–1.461

Iodine Value 45–168

Saponification Value 192–203

Titer °C 32–45

% Unsaponifiable 12

Melting Point °C

% Hydrocarbons

% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

8:0	0-0.1
10:0	0-0.1
12:0	< 0.5 for C12 and lower
14:0	0.5-2.5
14:1	0-0.2
15:0	0-0.2
16:0	20-32
16:1	1.7-5.0
17:0	0-0.5
17:1	0-0.3
18:0	5-24
Unassigned 18:1	35-62
18:2	3-16
18:3	0-1
20:0	0-1.0
20:1	0-1.3
20:2	0-1.0
20:4	0-0.4
5c,8c,11c,14c-20:4 (n-6)	0-1.0
Other	15:ISO, 0-0.1; 16:ISO, 0-0.1; 22:0, 0-1.0
Cholesterol	(950 mg/kg)

References *Codex Alinorm 97/17*
Rev. Franc. Corps Gras 33: 437 (1986)
USDA, Agriculture Handbook 8-4 (1979)

Maasbanker Oil*Trachurus trachurus*

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG (20/20) 0.9227

Refractive Index (RI)
25°C
40°C
Other RI

Iodine Value

Saponification Value 194

Titer °C

% Unsaponifiable 1-4

Melting Point °C

% Hydrocarbons
% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

14:0	4-9
15:0	0-0.3
16:0	14-22
16:1	5-9
17:0	0-1
18:0	3-6
Unassigned 18:1	6-13
18:2	1-2
18:4	1-2
20:1	5-9
20:4	1-2
5c,8c,11c,14c-20:4 (n-6)	1-2
20:5	8-13
6c,9c,12c,15c,17c-20:5	8-13
22:1	6-18
22:5	2
7c,10c,13c,16c,19c-22:5 (n-3)	2
22:6	6-23
4c,7c,10c,13c,16c,19c-22:6	6-23
Other	1-11

References Enser, M., In *Analysis of Oilseeds, Fats and Fatty Foods*, (Pritchard, J.L.R., ed) Elsevier Applied Science, NY, 1991, pp. 377

Mackerel Oil

Specific Gravity (SG)
15.5/15.5°C
25/25°C
Other SG (15/15) 0.9301

Refractive Index (RI)
25°C
40°C
Other RI (20) 1.4811

Iodine Value 136-167

Saponification Value 136-167

Titer °C

% Unsaponifiable 0.4-1.4

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	7-8
16:0	13-16
16:1	4-9
18:0	2-3
Unassigned 18:1	13-14
18:2	1-2
18:3	1-2
18:4	2-5
20:1	12
20:2	0.2
20:5	6-8
6c,9c,12c,15c,17c-20:5	6-8
22:1	14-16
22:5	1
7c,10c,13c,16c,19c-22:5 (n-3)	1
22:6	8-9
4c,7c,10c,13c,16c,19c-22:6	8-9
Other	5-8
Cholesterol	0.2-0.3

References Enser, M., In *Analysis of Oilseeds, Fats and Fatty Foods*, (Pritchard, J.L.R., ed), Elsevier Applied Science, NY, 1991, pp. 378
 Stansby, M.E., et al., In *Fish Oils in Nutrition*, (Stansby, M.E., ed.), van Nostrand Reinhold, NY, 1990

Mackerel Oil, Jack Pacific

Trachurus symmetricus

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C

% Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	4.5-9
15:0	0-1
16:0	12.5-22
16:1	4.5-9
17:0	0-1.5
18:0	1.5-5.5
9c-18:1	16-40
18:2	0.5-2
18:3	0-1
6c,9c,12c-18:3 (n-6)	1-2.5
6c,9c,12c,15c-18:4 (n-3)	1-5
20:1 (n-9)	2-2.5
11c-20:1 (n-11)	2-2.5
8c,11c,14c,17c-20:4 (n-3)	0.5-1
5c,8c,11c,14c-20:4 (n-6)	0.5-1.5
20:5	5-24
21:5	0-0.5
22:1 (n-9)	0-1
22:1 (n-11)	0-1
7c,10c,13c,16c,19c-22:5 (n-3)	0.5-3.5
4c,7c,10c,13c,16c,19c-22:6	5.5-23

References

Mackerel, Atlantic Oil

Scomber scombrus

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

10:0	0.1
12:0	0.3
13:0	0.06
14:0	6
14:1	0.06
15:0	0.6
16:0	15
16:1	0.4
16:1 (n-9)	0.4
16:1 (n-5)	0.8
16:2 (n-4)	0.6
16:3 (n-3)	0.2
16:3 (n-4)	0.4
17:0	0.2
18:0	2
9c-18:1	10
11c-18:1	4
13c-18:1	0.8
18:2	1
18:2 (n-4)	0.2
18:3	0.04
18:3 (n-3)	1.4
6c,9c,12c,15c-18:4 (n-3)	3
20:0	0.2
20:1 (n-5)	0.4
20:1 (n-7)	2
20:1 (n-9)	8
20:2	0.2
11c,14c,17c-20:3 (n-3)	0.2
20:4	0.8
5c,8c,11c,14c-20:4 (n-6)	0.5
21:5	0.3
22:0	0.2
22:1	11
22:1 (n-7)	0.7
22:1 (n-9)	2.5
7c,10c,13c,16c,19c-22:5 (n-3)	0.6
4c,7c,10c,13c,16c,19c-22:6	10.5
24:0	0.2
24:1	1

References *J. Am Oil Chem. Soc.* 63: 324 (1986)

Menhaden Oil

Specific Gravity (SG)

15.5/15.5°C 0.912–0.930
25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI (65) 1.490–1.523

Iodine Value 150–200

Saponification Value 192–199

Titer °C

% Unsaponifiable 0.6–1.6

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	6–12.5
14:1	0.2–0.4
15:0	0–1.5
16:0	14–25.6
16:1	7–15.8
16:2	1–2
17:0	0–3
18:0	2–4.5
Unassigned 18:1	6–16
9c-18:1	3.5–16
18:2	0.5–2.8
18:3	0–2.3
6c,9c,12c-18:3 (n-6)	0–1
6c,9c,12c,15c-18:4 (n-3)	1.5–5
18:4	1–5
20:0	0.2
20:1	0.5–2
20:1 (n-9)	0.5–2
11c-20:1 (n-11)	0.5–2
20:2	0.2
20:4	0–1.2
8c,11c,14c,17c-20:4 (n-3)	0.5–2.5
5c,8c,11c,14c-20:4 (n-6)	0.5–4
20:5	11–18.5
6c,9c,12c,15c,17c-20:5	12–18
21:5	0.5–1
22:1	0.1–1.4
22:1 (n-9)	0–0.5
22:1 (n-11)	0–0.5

22:5	1.3–3.8
7c,10c,13c,16c,19c-22:5 (n-3)	1.5–4.9
22:6	4.6–13.8
4c,7c,10c,13c,16c,19c-22:6	4–15
Other	16:3, 1–3; 16:4, 0.5–2; 17:1, 1.8–1.9; 21:5, 0.5–1; 22:0, 0.1

References Stansby, M.E., et al., In *Fish Oils in Nutrition*, (Stansby, M.E., ed.), van Nostrand Reinhold, NY, 1990

Mullet Oil

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	5–12
15:0	3–12
15:1	0–1
16:0	20–34
16:1	13–29
17:0	0–3
17:1	2–8
17:2	0–4
18:0	2–5
Unassigned 18:1	7–14
18:2	0.7–3
18:3	0.3–1
6c,9c,12c,15c-18:4 (n-3)	0.7–2
18:4 (n-6)	0.1–2
19:1	0–2.5
20:0	0–4
20:3	(n-3) 0.1–0.8; (n-6) 0–2

8c,11c,14c-20:3	0–2
8c,11c,14c,17c-20:4 (n-3)	0.3–0.6
5c,8c,11c,14c-20:4 (n-6)	2–4
20:5	5–8
6c,9c,12c,15c,17c-20:5	5–8
22:3	0–0.2
22:4	0.2–0.6
22:5	1–4
7c,10c,13c,16c,19c-22:5 (n-3)	1–4
22:6	(n-6) 0.4–1; (n-3) 0.7–4
4c,7c,10c,13c,16c,19c-22:6	0.7–4
Other	3–21

References Stansby, M.E., et al., In *Fish Oils in Nutrition*, (Stansby, M.E., ed.), van Nostrand Reinhold, NY, 1990, pp. 31

Norway Pout Oil

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	25°C
	40°C
Other RI	
Iodine Value	141
Saponification Value	
Titer °C	
% Unsaponifiable	5–6
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	4–6
16:0	9–17
16:1	4–8
18:0	2–3
Unassigned 18:1	10–20
18:2	1–2
18:3	1–2
18:4	2–7
20:1	8–13
20:2	0.3–1
5c,8c,11c,14c-20:4 (n-6)	1–4

6c,9c,12c,15c,17c-20:5	5-10
22:1	9-15
22:2	0.5-1
7c,10c,13c,16c,19c-22:5 (n-3)	1-2
4c,7c,10c,13c,16c,19c-22:6	11-20
Other	4-18

References

Orange Roughy

Hoplostethus atlanticus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	1
16:0	3
16:1	7
16:3 (n-4)	0.5
18:0	1
Unassigned 18:1	34
18:2	1
18:2 (n-4)	0.3
18:3	0.7
6c,9c,12c,15c-18:4 (n-3)	0.6
20:1 (n-9)	27
20:2	1
20:3	0.1
8c,11c,14c,17c-20:4 (n-3)	0.1
5c,8c,11c,14c-20:4 (n-6)	0.2
6c,9c,12c,15c,17c-20:5	1
22:1 (n-9)	14

22:2 (n-6)	3
22:6 (n-3)	2
24:1	0.5

References

Oyster Lipids (American)

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	4
16:0	29
16:1	4
18:0	4
Unassigned 18:1	8
18:2	2
18:3	3
20:1	5
6c,9c,12c,15c,17c-20:5	2
22:1	0.3
7c,10c,13c,16c,19c-22:5 (n-3)	0.3
4c,7c,10c,13c,16c,19c-22:6	10

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC, 1976

Oyster Lipids (European)

Specific Gravity (SG)

15.5/15.5°C

25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	9
16:0	34
16:1	6
18:0	10
Unassigned 18:1	7
18:2	1
18:3	4
18:4	1
20:1	3
5c,8c,11c,14c-20:4 (n-6)	1
6c,9c,12c,15c,17c-20:5	3
22:1	1
7c,10c,13c,16c,19c-22:5 (n-3)	0.1
4c,7c,10c,13c,16c,19c-22:6	1

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC, 1976

Perch, White Oil*Morone americanus*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	3
16:0	19
16:1	14
18:0	3
Unassigned 18:1	25
18:2	4
18:3	3
6c,9c,12c,15c-18:4 (n-3)	2
18:4	2
20:1	1
20:4	5
8c,11c,14c,17c-20:4 (n-3)	5
20:5	11
6c,9c,12c,15c,17c-20:5	11
22:5	2
7c,10c,13c,16c,19c-22:5 (n-3)	2
22:6	4
4c,7c,10c,13c,16c,19c-22:6	4

References *J. Am Oil Chem. Soc.* 54: 424 (1977)

Pig Fat

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG (20/20) 0.90
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons

% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

References

Pike, Northern Oil

Esox lucius

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	16
16:1	6
18:0	4
Unassigned 18:1	13
18:2	4
18:3	3
20:4	8
5c,8c,11c,14c-20:4 (n-6)	8
20:5	6
6c,9c,12c,15c,17c-20:5	6
7c,10c,13c,16c-22:4	1
22:5	4
4c,7c,10c,13c,16c-22:5 (n-6)	1
7c,10c,13c,16c,19c-22:5 (n-3)	3
22:6	31
4c,7c,10c,13c,16c,19c-22:6	31

References *J. Am Oil Chem. Soc.* 54: 424 (1977)

Pollock Oil

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	4-5.5
15:0	0-0.5
16:0	8-11
16:1	9-12
17:0	0-1
18:0	1-2
9c-18:1	7-13.5
18:2	0.5-1.5
18:3	0-0.5
6c,9c,12c-18:3 (n-6)	0-0.5
6c,9c,12c,15c-18:4 (n-3)	1-2
20:1 (n-9)	4-5.5
11c-20:1 (n-11)	10-16
8c,11c,14c,17c-20:4 (n-3)	0.3-0.5
20:5	9.5-11
22:1 (n-9)	0.5-1.5
22:1 (n-11)	11.5-15.5
7c,10c,13c,16c,19c-22:5 (n-3)	0.5-1
4c,7c,10c,13c,16c,19c-22:6	4.5-5.5

References

Pompano

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	3
15:0	2.5
16:0	14
16:1	9
18:0	16
Unassigned 18:1	10
18:2	1
6c,9c,12c,15c-18:4 (n-3)	0.6
18:4	0.6
20:1	3
20:4	7
5c,8c,11c,14c-20:4 (n-6)	7
20:5	4
6c,9c,12c,15c,17c-20:5	4
7c,10c,13c,16c-22:4	1
22:5	7
4c,7c,10c,13c,16c-22:5 (n-6)	2
7c,10c,13c,16c,19c-22:5 (n-3)	5
4c,7c,10c,13c,16c,19c-22:6	20

References *J. Food Sci.* 52: 1209 (1987)**Pout, Norway Oil***Trisopterus esmarki*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	17
16:1	3
18:0	4
Unassigned 18:1	15
18:2	1
18:3	0.5
6c,9c,12c,15c-18:4 (n-3)	1
20:1	3
20:2	0.2
20:4	1
6c,9c,12c,15c,17c-20:5	14
22:1 (n-9)	2
7c,10c,13c,16c,19c-22:5 (n-3)	1
4c,7c,10c,13c,16c,19c-22:6	33

References *J. Am Oil Chem. Soc.* 70: 1081 (1993)**Premier Jus (Beef/Sheep Tallow)**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (20/20) 0.893–0.904

Refractive Index (RI)

25°C

40°C

Other RI (20) 1.448–1.460

Iodine Value 32–50

Saponification Value 190–202

Titer °C 40–49

% Unsaponifiable 12

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

12:0	< 2.5 for C12 and lower
14:0	2-6
14:1	0.5-1.5
15:0	0.5-1.0
16:0	20-30
16:1	1-5
16:2	0-1.0
17:0	0.5-2
18:0	6-30
Unassigned 18:1	30-45
18:2	1-6
18:3	<1.5
20:0	0-0.5
20:1	0-0.5
5c,8c,11c,14c-20:4 (n-6)	0-0.5
Other	14:ISO, 0-0.3; 15:ISO + ANTISO, 0-1.5; 16:ISO, 0-0.5; 17:1, 0-1.0; 17:ISO + ANTISO, 0-0.5

References *Codex Alinorm 97/17*

Rev. Franc. Corps Gras 33: 437 (1986)

Riv. Ital. Sost. Grasse 52: 79 (1975)

Rabbit Fat

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 72

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 4

16:0 32

16:1 6

18:0 7

Unassigned 18:1 23

18:2 19

18:3 2

References *J. Food Comp. Anal. 7: 291 (1994)*

Ray, Starry Muscle Oil

Raja radiata

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 1

16:0 20

16:1 3

16:2 (n-6) 0.3

16:2 (n-4) 0.2

16:3 (n-4) 0.4

18:0 5

Unassigned 18:1 9

11c-18:1 6

13c-18:1 0.5

18:2 1.6

18:3 0.4

6c,9c,12c,15c-18:4 (n-3) 0.4

20:1 (n-9) 2.5

20:2 0.4

8c,11c,14c,17c-20:4 (n-3) 0.4

5c,8c,11c,14c-20:4 (n-6)	2.7
6c,9c,12c,15c,17c-20:5	6.6
22:1 (n-9)	0.6
22:2	0.2
7c,10c,13c,16c,19c-22:5 (n-3)	2
4c,7c,10c,13c,16c,19c-22:6	26

References *J. Am Oil Chem. Soc.* 70: 1081 (1993)

Redfish Oil

Sebastes marinus

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	4-6
16:0	10-14
16:1	7-14
18:0	1-3
Unassigned 18:1	17-22
18:2	0.6-2
18:3	0.2-1
18:4	1-3
20:1	11-20
5c,8c,11c,14c-20:4 (n-6)	0.1-0.5
6c,9c,12c,15c,17c-20:5	5-10
7c,10c,13c,16c,19c-22:5 (n-3)	0.1-1
4c,7c,10c,13c,16c,19c-22:6	2-6

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC, 1976

Sablefish Lipids

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
	Other SG
Refractive Index (RI)	25°C
	40°C
	Other RI
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	5.2-5.7
16:0	21.4-22.2
16:1	8.7-10.1
18:0	3.7-3.9
9c-18:1	22.4-23.4
11c-18:1	8.3-9.1
18:2	0.6
18:3	0-1
20:0	0.2-0.3
20:1	1.4-1.5
8c,11c,14c-20:3	0.2
5c,8c,11c,14c-20:4 (n-6)	5.3-5.7
6c,9c,12c,15c,17c-20:5	16.5-17.3
7c,10c,13c,16c,19c-22:5 (n-3)	5-6
4c,7c,10c,13c,16c,19c-22:6	17-18
24:1	1-4

References *J. Food Comp. Anal.* 4: 128 (1991)

Salmon, Atlantic Oil (Muscle, Iceland)*Salmo salar*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 5

16:0 14

16:1 8

18:0 2

Unassigned 18:1 19

11c-18:1 3–4

13c-18:1 1

18:2 3

18:2 (n-4) 0.4

18:3 1

18:4 1

20:1 (n-9) 11

20:2 0.5

8c,11c,14c,17c-20:4 (n-3) 0.9

5c,8c,11c,14c-20:4 (n-6) 0.3

6c,9c,12c,15c,17c-20:5 4

22:1 (n-9) 7

7c,10c,13c,16c,19c-22:5 (n-3) 1

4c,7c,10c,13c,16c,19c-22:6 5

References *J. Am Oil Chem. Soc.* 70: 1081 (1993)**Salmon, Atlantic Oil (Whole Body Caught in Wild, Canada)***Salmo salar*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 2

16:0 14

16:1 6

18:0 5

Unassigned 18:1 13

18:2 3

18:3 2

20:1 1

5c,8c,11c,14c-20:4 (n-6) 8

6c,9c,12c,15c,17c-20:5 5

22:1 0.2–11

7c,10c,13c,16c-22:4 1

4c,7c,10c,13c,16c-22:5 (n-6) 2

7c,10c,13c,16c,19c-22:5 (n-3) 3

4c,7c,10c,13c,16c,19c-22:6 15

References *Lipids* 21: 117 (1986)*Prog. Lipid Res.* 26: 281 (1987)**Salmon, Oil**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (15/15) 0.924–0.926

Refractive Index (RI)	
25°C	1.472–1.477
40°C	
Other RI	
Iodine Value	130–160
Saponification Value	183–186
Titer °C	
% Unsaponifiable	8–12
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	3.3
16:0	9.8
16:1	4.8
18:0	4.2
Unassigned 18:1	17
18:2	1.5
18:3	1.1
18:4	2.8
20:1	3.9
5c,8c,11c,14c-20:4 (n-6)	0.7
6c,9c,12c,15c,17c-20:5	13
4c,7c,10c,13c,16c,19c-22:6	18.2

References**Sand Eel Oil**

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	150–190
Saponification Value	180–190
Titer °C	
% Unsaponifiable	1–6
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	5.5–8.5
15:0	0–2
16:0	10–19
16:1	5–10
17:0	0–0.5
18:0	0.5–3
Unassigned 18:1	6–12
9c-18:1	5.5–12
18:2	0.5–3.5
18:3	0.5–2
6c,9c,12c,15c-18:4 (n-3)	2.5–5.5
18:4	5
20:1	12–21
20:1 (n-9)	10–14.5
20:2	0.3
8c,11c,14c,17c-20:4 (n-3)	0–1
5c,8c,11c,14c-20:4 (n-6)	0–0.5
20:5	7–11
6c,9c,12c,15c,17c-20:5	7–11
21:5	0–1
22:1	11–22
22:1 (n-11)	14.5–18
7c,10c,13c,16c,19c-22:5 (n-3)	0–1
4c,7c,10c,13c,16c,19c-22:6	6–14
Other	1–17

References**Sardine, Pilchard Oil**

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.914–0.921
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	(65) 1.4634–1.4648
Iodine Value	159–192
Saponification Value	188–199
Titer °C	
% Unsaponifiable	0.1–1.3
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	4-12
15:0	0-0.6
16:0	9-22
16:1	6-13
17:0	0-1
18:0	2-7
Unassigned 18:1	7-17
18:2	1-3
18:3	0.4-1
18:4	2-3
20:1	1-8
5c,8c,11c,14c-20:4 (n-6)	1-3
6c,9c,12c,15c,17c-20:5	9-35
22:1	1-8
7c,10c,13c,16c,19c-22:5 (n-3)	1-4
4c,7c,10c,13c,16c,19c-22:6	4-13
Other	1-14

References**Seal Blubber Oil, Harp**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	3.7
14:1	1.1
15:0	0.2
16:0	6
16:1	18
17:0	0.9
18:0	0.9

9c-18:1	20.8
11c-18:1	5.2
18:2	1.5
18:3	0.6
18:4	1
20:0	0.1
20:1	12.2
20:2	0.2
8c,11c,14c-20:3	0.1
5c,8c,11c,14c-20:4 (n-6)	0.5
6c,9c,12c,15c,17c-20:5	6.4
22:1	2
7c,10c,13c,16c,19c-22:5 (n-3)	4.7
4c,7c,10c,13c,16c,19c-22:6	7.6
Other	17:1, 0.6; 22:4, 0.1

References *Lipids* 30: 1111 (1995)**Seal Oil, Harp**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	3.5-5
15:0	0.2
16:0	2-6
16:1	12-18
17:0	0.9
18:0	0.9-1
Unassigned 18:1	20-26
18:2	1.4-1.5
18:3	0.6-1.3
18:4	1-3.1

20:0	0.1–0.2
20:1	0–12
20:2	0.2
5c,8c,11c,14c-20:4 (n-6)	0.3–0.6
6c,9c,12c,15c,17c-20:5	6.4–6.8
7c,10c,13c,16c,19c-22:5 (n-3)	3.7–4.7
4c,7c,10c,13c,16c,19c-22:6	7.6–11.1
Other	1.4

References *J. Am. Oil Chem. Soc.* 75: 945 (1998)

Seal Skin Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	(20/20) 0.938
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	58–59
Saponification Value	180
Titer °C	
% Unsaponifiable	0.4
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	36–80
% Pristane	

Fatty Acid Composition (%)

14:0	5
16:0	7.4
16:1	19.3
Unassigned 18:1	27.3
18:2	2.9
18:3	1.3
20:1	13.6
20:2	4.4
6c,9c,12c,15c,17c-20:5	6.3
22:1	2
7c,10c,13c,16c,19c-22:5 (n-3)	3.3
4c,7c,10c,13c,16c,19c-22:6	7.1

References *J. Am. Oil Chem. Soc.* 75: 1015 (1998)

Seal, Antarctic Fur Seal

Arctocephalus gazella

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	3–6
16:0	18–19
16:1	9–11
17:1	1
18:0	1.7–2
Unassigned 18:1	32–37
18:2	1.5–1.7
18:3	0.4–0.7
20:1	2.7–5
20:4	0.4–0.7
20:5	7–12
22:1	0.6–1.3
22:5	2–2.4
22:6	5–8

References *Lipids* 27: 637 (1992)

Shark Liver Oil

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	0.917–0.923
Other SG	
Refractive Index (RI)	
25°C	1.473–1.478
40°C	
Other RI	

Iodine Value	150–300
Saponification Value	170–190
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	2
16:0	21
16:1	8
18:0	2
Unassigned 18:1	45
20:1	12
22:1	9
Other	2
Cholesterol	(400–1200 mg/kg)

References *J. Am. Oil Chem Soc.* 74: 497 (1997)
Chromatographia 39: 329 (1994)

Shark Liver Oil (Basking)*Centorhinus maximus*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	(15/4) 0.8922
Refractive Index (RI)	
	25°C
	40°C
Other RI	(20) 1.4819
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	36
Melting Point °C	
% Hydrocarbons	96
% Sterols	2.5
% Squalene	98
% Pristane	

Fatty Acid Composition (%)**References****Shark Liver Oil (Deep Sea)***Centrophorus squamosus*

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	
	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)

14:0	2
16:0	21
16:1	8
17:1	1
18:0	2
Unassigned 18:1	45
20:1	12
22:1	9

References**Sheep Fat (Subcutaneous)**

Specific Gravity (SG)	15.5/15.5°C
	25/25°C
Other SG	
Refractive Index (RI)	
	25°C
	40°C
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	

% Sterols
% Squalene
% Pristane

Fatty Acid Composition (%)

10:0	0.4
12:0	0.4
14:0	5
15:0	0.6
16:0	25
16:1	1.6
17:0	1.0
18:0	23
Unassigned 18:1	38
18:2	1
20:1	0.2
Other	16:1t, 0.8

References Pearson, A.M., In *Advances in Food Research*, (Chichester, C.O., ed.), Vol. 23, Academic Press, NY, 1977, pp. 28

Shrimp

Pennaeus spp.

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	1-2
16:0	13-16
16:1	5-7

18:0	7-8
9c-18:1	6-8
11c-18:1	3
18:2	1-3
5c,8c,11c,14c-20:4 (n-6)	6-7
6c,9c,12c,15c,17c-20:5	17-22
7c,10c,13c,16c,19c-22:5 (n-3)	2
4c,7c,10c,13c,16c,19c-22:6	13-15
Cholesterol	(1500-1600 mg/kg)

References *J. Food Sci.* 54: 237 (1989)

Shrimp, Alaska

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2.5
16:0	16
16:1	6
18:0	2.6
Unassigned 18:1	19
18:2	1.5
18:3	1.4
18:4	1
20:1	2.4
5c,8c,11c,14c-20:4 (n-6)	0.4
6c,9c,12c,15c,17c-20:5	22
22:1	1.6
7c,10c,13c,16c,19c-22:5 (n-3)	1
4c,7c,10c,13c,16c,19c-22:6	16

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC, 1976

Shrimp, Ecuador White

Penaeus vannanei

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 5

16:0 18

16:1 2

18:0 7

9c-18:1 12

11c-18:1 3

18:2 9

5c,8c,11c,14c-20:4 (n-6) 6

6c,9c,12c,15c,17c-20:5 16

7c,10c,13c,16c,19c-22:5 (n-3) 1

4c,7c,10c,13c,16c,19c-22:6 12

Cholesterol (1370–1690 mg/kg)

References *J. Food Sci.* 54: 237 (1989)

Shrimp, Louisiana Brown

Penaeus aztecus aztecus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 1

16:0 16

16:1 6

18:0 8

9c-18:1 8

11c-18:1 3

18:2 3

5c,8c,11c,14c-20:4 (n-6) 7

6c,9c,12c,15c,17c-20:5 17

7c,10c,13c,16c,19c-22:5 (n-3) 2

4c,7c,10c,13c,16c,19c-22:6 15

Cholesterol (1560–1620 mg/kg)

References *J. Food Sci.* 54: 237 (1989)

Smelt, American Oil (Fillets, Cayuga Lake, NY)

Osmerus mordax

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	
Fatty Acid Composition (%)	
14:0	5
16:0	14
16:1	9
18:0	1
Unassigned 18:1	18
18:2	4
18:3	5
6c,9c,12c,15c-18:4 (n-3)	1.7
5c,8c,11c,14c-20:4 (n-6)	3.5
6c,9c,12c,15c,17c-20:5	13
4c,7c,10c,13c,16c-22:5 (n-6)	1
4c,7c,10c,13c,16c,19c-22:6	23

References *J. Am Oil Chem. Soc.* 54: 424 (1977)

Smelt, Greater Silver Oil

Argentina silus

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)	
14:0	5
16:0	15
16:1	6
18:0	2
Unassigned 18:1	16-17

18:2	1
18:3	1
6c,9c,12c,15c-18:4 (n-3)	2
20:1 (n-9)	10
20:2	0.5
20:3	0-0.2
6c,9c,12c,15c,17c-20:5	5
22:1 (n-9)	14
7c,10c,13c,16c,19c-22:5 (n-3)	1
4c,7c,10c,13c,16c,19c-22:6	9-10

References *J. Am Oil Chem. Soc.* 70: 1081 (1993)

Snapper, Red Oil (Fillet)

Specific Gravity (SG)	
15.5/15.5°C	
25/25°C	
Other SG	
Refractive Index (RI)	
25°C	
40°C	
Other RI	
Iodine Value	
Saponification Value	
Titer °C	
% Unsaponifiable	
Melting Point °C	
% Hydrocarbons	
% Sterols	
% Squalene	
% Pristane	

Fatty Acid Composition (%)	
14:0	2.5
15:0	1.5
16:0	14
16:1	4
18:0	11
Unassigned 18:1	18
18:2	1-2
20:1	1
5c,8c,11c,14c-20:4 (n-6)	3.6
6c,9c,12c,15c,17c-20:5	6
7c,10c,13c,16c,19c-22:5 (n-3)	4
4c,7c,10c,13c,16c,19c-22:6	24

References *J. Food Sci.* 52: 1209 (1987)

Sole, Lemmon Oil*Microstomus kitt*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	14
16:1	4
16:2 (n-6)	0.6
16:2 (n-4)	0.4
16:3 (n-4)	0.5
16:4 (n-1)	0.2
18:0	3
9c-18:1	4
11c-18:1	5
18:2	0.5
18:2 (n-4)	0.3
18:3	0.5
6c,9c,12c,15c-18:4 (n-3)	0.8
20:1 (n-9)	4
20:2	0.7
20:3	0.6
8c,11c,14c,17c-20:4 (n-3)	0.4
5c,8c,11c,14c-20:4 (n-6)	3
6c,9c,12c,15c,17c-20:5	12
22:1 (n-9)	2
22:2	1
7c,10c,13c,16c,19c-22:5 (n-3)	3
4c,7c,10c,13c,16c,19c-22:6	15

References**Sprat Oil**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value 125–147

Saponification Value

Titer °C

% Unsaponifiable 1–2

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

16:0	16–17
16:1	6–8
18:0	2–3
Unassigned 18:1	15–17
18:2	2
18:3	2
20:1	10–11
6c,9c,12c,15c,17c-20:5	6–7
22:1	13–16
7c,10c,13c,16c,19c-22:5 (n-3)	0.8
4c,7c,10c,13c,16c,19c-22:6	7–11
Other	22:4, 0.5–1; 14–16

References**Squid**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	1-6
15:0	0-1
16:0	10-20
16:1	0.5-8
16:2 (n-6)	0.3
16:3 (n-4)	0.3
16:4 (n-1)	0.3
17:0	0-1
18:0	1-6
Unassigned 18:1	2
9c-18:1	6-25
11c-18:1	1
13c-18:1	0.3
18:2	0-2
18:2 (n-4)	0.3
18:3	0-2
6c,9c,12c-18:3 (n-6)	0-1
6c,9c,12c,15c-18:4 (n-3)	0-3
20:1 (n-9)	0-7
11c-20:1 (n-11)	0-13
20:2	0.4
20:3	0.9
8c,11c,14c,17c-20:4 (n-3)	0-2
5c,8c,11c,14c-20:4 (n-6)	0-3
20:5	7-15
6c,9c,12c,15c,17c-20:5	2
21:5	0-1
22:1 (n-9)	0-13
22:1 (n-11)	2-10
22:2 (n-6)	0.3
7c,10c,13c,16c,19c-22:5 (n-3)	0.4-3
4c,7c,10c,13c,16c,19c-22:6	12.5-34.5
24:1	0.2

References *J. Am Oil Chem. Soc.* 70: 1081
 (1993)

Sucker, White*Catostromus commersonni*

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	2-3
16:0	15
16:1	19
18:0	2
Unassigned 18:1	14
18:2	3
18:3	2
6c,9c,12c,15c-18:4 (n-3)	2
20:1	1
5c,8c,11c,14c-20:4 (n-6)	4
6c,9c,12c,15c,17c-20:5	10
7c,10c,13c,16c,19c-22:5 (n-3)	3
4c,7c,10c,13c,16c,19c-22:6	15

References *J. Am Oil Chem. Soc.* 54: 424
 (1977)

Swordfish

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI

Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	4
15:0	2
16:0	8
16:1	9
18:0	8
Unassigned 18:1	20
18:2	2
6c,9c,12c,15c-18:4 (n-3)	1
20:1	6
5c,8c,11c,14c-20:4 (n-6)	5
6c,9c,12c,15c,17c-20:5	4
22:1	1
7c,10c,13c,16c-22:4	1
4c,7c,10c,13c,16c-22:5 (n-6)	2
7c,10c,13c,16c,19c-22:5 (n-3)	6
4c,7c,10c,13c,16c,19c-22:6	19
24:1	2

References *J. Food Sci.* 52: 1209 (1987)

Tallow (Beef)

Specific Gravity (SG)
 15.5/15.5°C 0.938–0.952
 25/25°C 0.903–0.907
 Other SG (20/20) 0.93
 Refractive Index (RI)
 25°C
 40°C 1.450–1.458
 Other RI
 Iodine Value 33–50
 Saponification Value 190–202
 Titer °C 40–47
 % Unsaponifiable 0–0.5
 Melting Point °C 45–48
 % Hydrocarbons
 % Sterols

% Squalene
 % Pristane

Fatty Acid Composition (%)

10:0	0–0.1
12:0	0–0.9
14:0	1–6
14:1	0–0.2
15:0	1.3
15:1	0–0.2
16:0	20–37
16:1	1–9
17:0	1–3
17:1	0.7
18:0	18.9–40
Unassigned 18:1	31–50
18:2	1–5
18:3	0.6
19:0	0–0.1
20:1	0–0.3
20:4	0.4
Cholesterol	(1090 mg/kg)

References *J. Am. Oil Chem. Soc.* 67: 980 (1990)
 USDA, *Agriculture Handbook* 8–4 (1979)

Tallow (Mutton)

Specific Gravity (SG)
 15.5/15.5°C 0.938–0.955
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C 1.452–1.458
 Other RI
 Iodine Value 35–46
 Saponification Value 192–198
 Titer °C 43–58
 % Unsaponifiable
 Melting Point °C 44–51
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

10:0	0–0.2
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12:0	0–0.3
14:0	2–5.2
14:1	0–0.3
15:0	0.8
15:1	0–0.3
16:0	20–27
16:1	1.4–4.5
17:0	2
17:1	0.5
18:0	19.5–34
Unassigned 18:1	30–42
18:2	1.9–5.5
18:3	1.3–2.3
19:0	0.8
20:4	0.4
Other	15:1, 0.5–1
Cholesterol	(1020 mg/kg)

References *J. Am. Oil Chem. Soc.* 67: 980 (1990)
 USDA, *Agriculture Handbook 8–4* (1979)

Trout Lipids

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	3–4
16:0	21–24
16:1	4–10
18:0	3–8
Unassigned 18:1	18–31
18:2	7–16

18:3	1–2
20:1	0–3
5c,8c,11c,14c-20:4 (n-6)	0–2
6c,9c,12c,15c,17c-20:5	0–6
7c,10c,13c,16c,19c-22:5 (n-3)	0–0.4
4c,7c,10c,13c,16c,19c-22:6	1–7

References Ackman, R.G., In *Objective Methods for Food Analysis*, National Academy of Sciences, Washington, DC, 1976

Trout, Lake

Salvelinus namaycush
namaycush

Specific Gravity (SG)
 15.5/15.5°C
 25/25°C
 Other SG
 Refractive Index (RI)
 25°C
 40°C
 Other RI
 Iodine Value
 Saponification Value
 Titer °C
 % Unsaponifiable
 Melting Point °C
 % Hydrocarbons
 % Sterols
 % Squalene
 % Pristane

Fatty Acid Composition (%)

14:0	2–3
15:0	0.2
16:0	13
16:1	8
18:0	2–3
9c-18:1	26
11c-18:1	5–6
18:2	4
18:3	3
6c,9c,12c,15c-18:4 (n-3)	1
20:1 (n-7)	0.3
20:1 (n-9)	1
20:2 (n-6)	1

8c,11c,14c-20:3	0.3
11c,14c,17c-20:3 (n-3)	1
8c,11c,14c,17c-20:4 (n-3)	2
5c,8c,11c,14c-20:4 (n-6)	2
6c,9c,12c,15c,17c-20:5	4
21:5 (n-3)	0.4
22:1 (n-11)	0.2
4c,7c,10c,13c,16c-22:5 (n-6)	0.7
7c,10c,13c,16c,19c-22:5 (n-3)	2
4c,7c,10c,13c,16c,19c-22:6	10

References *J. Food Comp. Anal.* 2: 13 (1989)

Trout, Ocean

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	19
16:1	3
18:0	8
Unassigned 18:1	10
18:2	1
20:1	2
5c,8c,11c,14c-20:4 (n-6)	4
6c,9c,12c,15c,17c-20:5	7
4c,7c,10c,13c,16c-22:5 (n-6)	2
7c,10c,13c,16c,19c-22:5 (n-3)	39
24:1	1

References *J. Food Sci.* 52: 1209 (1987)

Trout, Siscowet

Salvelinus namaycush siscowet

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2
16:0	13
16:1	9
18:0	3
9c-18:1	31
18:2	3
18:3	2
20:1 (n-7)	0.3
20:2 (n-6)	0.8
8c,11c,14c-20:3	0.3
11c,14c,17c-20:3 (n-3)	0.6
8c,11c,14c,17c-20:4 (n-3)	1.6
5c,8c,11c,14c-20:4 (n-6)	2.4
6c,9c,12c,15c,17c-20:5	4
21:5 (n-3)	0.1
22:1 (n-11)	0.1
4c,7c,10c,13c,16c-22:5 (n-6)	0.4
7c,10c,13c,16c,19c-22:5 (n-3)	2.3
4c,7c,10c,13c,16c,19c-22:6	7

References *J. Food Comp. Anal.* 2: 13 (1989)

Tuna (White Meat)*Thunnus alalunga*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 3

15:0 1

16:0 21

16:1 2

17:0 2

18:0 6

Unassigned 18:1 15

18:2 1-2

18:3 2

18:4 0.1

20:1 0.7

20:4 4

5c,8c,11c,14c-20:4 (n-6) 4

20:5 8

6c,9c,12c,15c,17c-20:5 8

22:2 0.5

7c,10c,13c,16c,19c-22:5 (n-3) 2

22:6 29

4c,7c,10c,13c,16c,19c-22:6 29

References *J. Food Comp. Anal.* 7: 119
(1994)

Turkey Fat

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 0.9

16:0 20.6

16:1 6

18:0 6.2

Unassigned 18:1 35.9

18:2 21.2

18:3 1.4

20:4 0.3

References**Turtle (Green) Oil**

Specific Gravity (SG)

15.5/15.5°C

25/25°C 0.914-0.916

Other SG

Refractive Index (RI)

25°C 1.467

40°C 1.461-1.465

Other RI

Iodine Value 58-88

Saponification Value 210-214

Titer °C

% Unsaponifiable 5-15

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

Other saturate, 45

References**Whale Oil***Balsenidae spp.*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG (15/15) 0.917–0.926

Refractive Index (RI)

25°C 1.468–1.472

40°C

Other RI

Iodine Value 97–115

Saponification Value 188–202

Titer °C

% Unsaponifiable 10–40

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

Other saturate, 18–28

References**Whale Oil, Minke**

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0 5

16:0 8

16:1 9

18:0 2

Unassigned 18:1 18

18:2 1.4

18:3 1.3

18:4 1.6

20:0 0.3

20:1 17

5c,8c,11c,14c-20:4 (n-6) 0.3

6c,9c,12c,15c,17c-20:5 4.3

22:1 11

7c,10c,13c,16c,19c-22:5 (n-3) 2.3

4c,7c,10c,13c,16c,19c-22:6 7.9

Other 1.6

References *Lipids* 30: 1111 (1995)**Whale Oil, Pacific Beaked***Beradius bairdii*

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

12:0 0.5

14:0 6

14:1 1

16:0 7

16:1	22
18:0	1
9c-18:1	26
11c-18:1	4
18:2	0.5
22:1	5.6
Other	7c-18:1, 3

References *Lipids* 13: 860 (1978)

Whitefish Oil

Coregonus clupeaformis

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	3
16:0	14
16:1	24
18:0	3
Unassigned 18:1	24
18:2	2
18:3	2
5c,8c,11c,14c-20:4 (n-6)	1.6
6c,9c,12c,15c,17c-20:5	9
7c,10c,13c,16c,19c-22:5 (n-3)	2
4c,7c,10c,13c,16c,19c-22:6	7

References

Whiting

Merlangius merlangus

Specific Gravity (SG)

15.5/15.5°C

25/25°C

Other SG

Refractive Index (RI)

25°C

40°C

Other RI

Iodine Value

Saponification Value

Titer °C

% Unsaponifiable

Melting Point °C

% Hydrocarbons

% Sterols

% Squalene

% Pristane

Fatty Acid Composition (%)

14:0	2-15
15:0	0.5
16:0	9-17
16:1	3
16:2 (n-6)	0.3
16:2 (n-4)	0.3
16:3 (n-4)	0.3
16:4 (n-1)	0.4
18:0	3-8
Unassigned 18:1	11-15
18:2	1
18:3	1
6c,9c,12c,15c-18:4 (n-3)	1-3
20:1 (n-9)	6
20:2	0.2
8c,11c,14c,17c-20:4 (n-3)	0.3
5c,8c,11c,14c-20:4 (n-6)	1-4
6c,9c,12c,15c,17c-20:5	9-13
22:1 (n-9)	6
7c,10c,13c,16c-22:4	0-4
4c,7c,10c,13c,16c-22:5 (n-6)	0-2
7c,10c,13c,16c,19c-22:5 (n-3)	0-4
4c,7c,10c,13c,16c,19c-22:6	24-30

References

Triglyceride Molecular Species of Selected Oils and Fats

Almond Kernel Oil*Prunus dulcis*

Triglyceride Composition

POO	10
SOO	2
PPL	0.3
OOO	36
POL	8
OOL	25
PLL	2
OLL	13
LLL	2

Alpine Current Seed Oil*Ribes alpinum*

Triglyceride Composition

OOO	0.2
POL + SOL	2
OOL	5
OOLng	1
PLLng + LLL	15
PLn + Lng + LLLng	5
PLnLn + PLngLng	14
PLL + SLL	5
PLLn + SLLn	3
OLL	14
OLLn	10
OLLng	4
OLngLng	0.4
OLnLng + OLLt	2
LLnLn + LLLt	4
LLnLt	2

Amaranth Seed Oil*Amaranthus caudatus*

Triglyceride Composition

PPP	0.7
PPS	0.3
PLL	11.7
LLL	4.4
VVV	35

Amaranth Seed Oil (Various)*Amaranthus hypochondriacus/
A. cruentus/A. edulis*

Triglyceride Composition

PSO	0.49–1.49
PPP	0–0.95
PSS	0.15
SOS	0–0.55
PPO	0.56–1.07
SOO	0.73–1.7
PPL	7.01–9
POL	16.47–18.67
PLLn	0.85–1.34
LLL	5.44–8.66
LLLn	1.06–2.4
LLnLn	0.31–1.11

Apricot Kernel Oil*Prunus armeniaca*

Triglyceride Composition

POO	4
SOO	1
OOO	26
POL	5
OOL	33
PLL	2
OLL	23
LLL	5

Argan Seed Oil*Argania spinosa*

Triglyceride Composition

PSO	1.9–2
SOS	0.3
PPO	1.8–3
POO	7.1–14
SOO	3–5
PPL	1.5–1.6
PSL	1.6
SSL	0.5–3.9
OOO	7.6–16
POL	12.4–14
SOL	3–6.2

OOL	16–20
PLL	5–6
SLL	2–2.6
OLL	13–17.3
LLL	5–7

Baillonella Toxisperma Kernel Oil

Baillonella toxisperma

Triglyceride Composition

PPS	13
PSS	12
SOS	1
PPO	5
POO	19
PPL	0.5
OOO	17
POL	3
OOL	3
OLL	1

Blackcurrant Oil

Ribes nigrum

Triglyceride Composition

POL	1
OOL + OEL	3
PLL + SLL	5
PLLn + SLLn	2
OLL + ELL	12
LLLn	12
LLL + POLng + OOLn	20
LLnLng + LLLt	6
LLnLn	3
LLnLt + LngLnLn	2

Borage Oil

Borago officinalis

Triglyceride Composition

PPO	0.3
POO	1
PPL	1
OOO	1

POL	6
POLng	14
OOL	5
OOLng	2
PLL	8
OLL	20
OLLng	16
OLLng + PLngLng	16
OLngLng	1
LLngLng	6

Buchanania Lanzas Oil

Buchanania lanzan/B. latifolia

Triglyceride Composition

PSO	9
PPP	2
PPS	1
SOS	1
PPO	23
POO	31
SOO	6
PPL	2
PSL	1
OOO	11
POL	7
OOL	3

Camellia Oleifera Seed Oil

Camellia oleifera

Triglyceride Composition

PSO	1
POO	18
SOO	9
PPL	0.1
OOO	54
POL	3
OOL	11
PLL	0.4
OLL	2
ALO	1

Camellia Sinensis Seed Oil*Camellia sinensis*

Triglyceride Composition

PSO	1.5
PPO	3
POO	19
SOO	5
PPL	2
OOO	25
POL	13
OOL	17
PLL	4
OLL	10
ALO	0.6

Cape Marigold Seed Oil*Dimorphotheca pluvialis*

Triglyceride Composition

DOO	4
DLL	3
DDP	6
DDO	28
DDL	21
DDD	3

Cashew Nut Oil*Anacardium occidentale*

Triglyceride Composition

PSO	3–6
SOS	2–3
PPO	2–5
POO	15–19
SOO	11–12
PPL	1–2
OOO	19–29
POL	8–11
SOL	3.5–5
OOL	11.8–17
PLL	1.7–2.6
OLL	3–5
LLL	tr-0.5
OLL	3.6–5.1
OOO	19–29.4

Castor Oil*Ricinus communis*

Triglyceride Composition

ROO	3
RLL	4
RRO	9
RRL	12
RRR	69

Celastrus Orbiculatus Seed Oil*Celastrus orbiculatus*

Triglyceride Composition

Other	Includes C36 and C38 Acetyloglycerides
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Cherry Kernel Oil*Prunus avium*

Triglyceride Composition

POO	4
PPL	1
OOO	16–16.1
POL	7.7–8
OOL	15–15.4
PLL incl. EOO	9.8–10
OLL	18.5–19
LLL	3–3.3
EEL	0.5
ELL	12.9–13
ELO	6.9–7
ELP	3.9–4
EOP	tr

Cloudberry Seed Oil*Rubus chamaemorus*

Triglyceride Composition

PPO	0.2
POO	0.3
OOO	3
POL	1
POLn	1
OOL	4

OOLn + OELn	1
PLL	2
PLLn	12
OLL + ELL	11
OLLn + ELLn	15
LLL	14
LLLn + LEELn	24

Cocoa Butter

Theobroma cocoa

Triglyceride Composition

PSO	36–40
PPS	1
PSS	1
SOS	23–26
PPO	14–18
POO	3–4
SOO	3–6
PPL	1–2
PSL	3
SSL	2
SOL	0.3–1
AOS	1–2
AOP	0–1
Other	1–8

Coconut Oil

Cocos nucifera

Triglyceride Composition

PPP	0.38
PPO	0.21
LaMM	11.25
MMM	7.15
MMP	2.36
CCC	1.89
CCL	0.06
CCO	1.65
CCP	23.16
CCS	18.22
PLC	0.29
LaCC	8.75
MCC	15
LLaC	0.03
OLaC	1.11

LMC	0.22
LnPC	0.33
OMC	2.34
LOC	0.04
OPC	1.84
OOC	0.19
LLaO	0.08
SOC	1.54
OOLa	0.73
SSC	0.3
SOLa	0.54
SMP	0.38

Cottonseed Oil

Gossypium spp.

Triglyceride Composition

PPP	1.2
PPS	0.3
PSS	tr
POO	0.3
SOO	0.3
PPL	3.3
OOO	0.7
POL	7.3
SOL	0.8
OOL	3.8
PLL	19.5
SLL	2.3
OLL	10.3
LLL	13.5

Crepis Alpina Seed Oil

Crepis alpina

Triglyceride Composition

LLL	2
CCC	37
CCL	33
CCO	4
CLL	7
CCP	12
CCS	4
PLC	2
SLC	1

Evening Primrose Oil*Oenothera biennis*

Triglyceride Composition

OOO	0.3
POL	1
OOL	1
PLL + SLL + ALL	12
OLL	15
OLLng	4
LLL + PLLng	50
LLLng	15
LLngLng	1

Fungal Oil*Mortierella alpina*

Triglyceride Composition

ALO	1–3
ALS	4–14
AOS	1–5
AOO	0.4–2
AAA	6–24
GAA	1–2
LAA	7–14
OAA	3–9
PAA	11–25
SAA	10–23
OGA	0.3–1
SGA	0.3–1
LLA	0.2–1
PLA	2–12
PPA	0.3–1.5
PSA	0.7–2
SSA	0.2–0.5

Hannoa Undulata Seed Oil*Hannoa undulata/**H. simarubacea*

Triglyceride Composition

PSO	8
SOS	7
POO	11
SOO	25
OOO	23

POL	3
SOL	11
OOL	7
OLL	3
AOS	0.1
AOO	3

Hazelnut Oil (Filbert)*Corylus avellana*

Triglyceride Composition

PPP	0.1–2.7
PPO	1–2
POO	10–18
SOO	2–7
PPL	0–1
OOO	36–57
POL	3–6
OOL	10–24
PLL	0.5–2
OLL	2–11
LLL	0.5–4

Herring Oil

Triglyceride Composition

PSO	21.1
PPS	2.4
PSS	3.1
SSS	0.5
SOS	1.9
PPO	7.6
POO	26.4
SOO incl. PPP	5.3
PSL incl. PoSO	3.8
OOO	5.7
POL	6.5
SOL	0.8
OOL	1.7
PLL	0.5
SLL	1.6
OLL	0.5
LnOP	0.9
LnOO	0.7
MOP	1.2
MOO incl. PPoO	3.2
OTHER	4.6

Hibiscus Cannabinus (Kenaf Seed) Oil

Hibiscus cannabinus

Triglyceride Composition

PPP	1.7
PPS	0.2
PSS	tr
PPO	3.2
POO	1.5
SOO	0.3
PPL	2.2
OOO	3.1
POL	4.5
SOL	0.2
OOL	4.3
PLL	11.9
SLL	0.6
OLL	11.3
LLL	3.9

Hibiscus Sabdariffa Oil

Hibiscus sabdariffa

Triglyceride Composition

PPP	1.1
PPS	0.3
PSS	tr
PPO	2.2
POO	1.1
SOO	1.3
PPL	2.4
OOO	4.9
POL	10.6
SOL	1.4
OOL	10.5
PLL	8
SLL	1
OLL	7.8
LLL	4.2

Hollyhock Oil

Althea rosea

Triglyceride Composition

PPS	0.1
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PSS	tr
PPO	2.0
POO	0.7
SOO	0.3
PPL	3.6
OOO	2.3
POL	12.8
SOL	0.5
OOL	8.2
PLL	12
SLL	0.5
OLL	8
LLL	7

Illipe Butter

Madhuca latiflora/

M. longiflora/M. indica/Bassia

latiflora/B. longiflora

Triglyceride Composition

PSO	22.2
SOS	10.6
PPO	18.9
POO	12.6
SOO	6.7
OOO	2.2

Irvingia Gabonensis Kernel Fat (Dika Fat)

Irvingia gabonensis

Triglyceride Composition

LaLaLa	8
LaLaM	31
LaMM	44
MMM	15
MMP	2

Kokum Butter

Garcinia indica

Triglyceride Composition

PSO	7.4–14
SOS	59–72.3

PPO	0.5–2
POO	0.5–2
SOO	15.1–21
OOO	2.1

Korean Pine Seed Oil

Pinus koraiensis

Triglyceride Composition

PSO	0.1
SOS	0
PPO	0.1
POO	2.6
SOO	1.3
PPL	0.6
PSL	0.5
OOO	7.6
POL	8.3
SOL	3.5
OOL	7.4
PLL	3.8
PLLn	5.5
OLL	18.1
OLLn	6.5
LLL	8.1
LLLn	10.7

Lime Seed Oil

Citrus aurantifolia

Triglyceride Composition

PPO	3
POO	4
PPL	14
PSL	4
OOO	2
POL	14
SOL	3
OOL	4
PLL	11
OLL	7
LLL	4
LnLO	5
LnOP	6
LnLL	4
LnLnL	1

Linseed Oil (Flax)

Linum usitatissimum

Triglyceride Composition

POO	1
SOO	1
OOO	3
POL	2
SOL	1
OOL	3
OLL	1
LLL	1
LnLO	5
LnOP	4
LnOO	7
LnLL	4
LnLP	7
LnLS	1
LnLnL	14
LnLnP	7
LnLnS	3
LnLnO	8
LnLnLn	21
Other	4.8

Mahua Fat

Madhuca latifolia

Triglyceride Composition

PSO	22
SOS	11
PPO	19
POO	13
SOO	7
OOO	2

Moringa Peregrina Seed Oil

Moringa peregrina

Triglyceride Composition

PSO	0.2
PPP	1
PPO	0.4
POO	29
SOO	9
PPL	0.2

PSL	5
OOO	45
POL	1.3
OOL	5
PLL	0.6
LLL	0.3
LnLO	0.4
LnLnL	0.2

Norway Pout Oil

Triglyceride Composition

PSO	14.5
PPS	3.3
PSS	3.1
SSS	1.6
SOS	4
PPO	10.6
POO	23
SOO incl. PPP	11.5
PSL incl. PoSO	4.8
OOO	4.4
POL	2.7
SOL	1.4
OOL	0.9
LnOP	0.4
MOP	3
MOO incl. PPoO	3.8
PoOO	1.1
OTHER	6

Ochoco Butter (Kernel Fat)

Scyphocephalum ochocoa

Triglyceride Composition

LaLaLa	0.5
LaLaM	5
LaMM	38
MMM	54
MMP	2
MMO	2

Okra Seed Oil

Hibiscus esculentus

Triglyceride Composition

PPP	0.8–2
PPS	0.1–0.2
PSS	tr
PPO	1.8–6
POO	0.6–5
SOO	0.3–1
PPL	2.2
PSL	4
OOO	1–5.2
POL	11–21
SOL	0.6–2
OOL	7–13
PLL	7.4–16
SLL	0.4
OLL	5.5–10
LLL	4.8–5.5

Olive Oil (for Quality Grade Reference Values see IOC Documentation)

Olea europaea

Triglyceride Composition

PSO	2
SOS incl. AOP	0.6
PPO incl. PLS	3
POO incl. SOL	23
SOO incl. AOL	8
OOO	45
POL incl. PPoO	4
OOL incl. PoOO	10
PLL incl. LnOO	2
OLL incl. PoLO	1
AOO	0.7
LnLO	0.2
LnOP	0.6
GOO	0.5

Peach Kernel (Pit) Oil*Prunus persica*

Triglyceride Composition

POO	7
SOO	2
PPL	0.3
OOO	31
POL	9
OOL	28
PLL	2
OLL	17
LLL	4

Peanut (Groundnut) Oil*Arachis hypogaea*

Triglyceride Composition

PSO	0.6
PPO	1
POO	6
SOO	4
PPL	2
OOO	5
POL	13
OOL	22
PLL	8
OLL	26
LLL	6
AOO	4
BOL	1
BOO	1

Pecan Nut Oil*Carya illinoensis*

Triglyceride Composition

POO	3–5
SOO	0.1–0.7
OOO	4–10
POL incl. PoOO	8–10
SOL	0.1–1
OOL	24–29
SLL	0.3–1
OLL	24–29
LLL	12–17

LnLO	0.5–1
LnOO	6–9
LnLL	1–3
LnLnL	0.1–1
LnLnLn	0.3–1

Phulwara Butter*Madhuca butyraceae*

Triglyceride Composition

PPP	8
PPS	1
SOS	0.4
PPO	53
POO	14
SOO	1
PPL	5
PSL	1
OOO	1
POL	2

Pili Nut Oil*Canarium ovatum*

Triglyceride Composition

PSO	11.9
PPP	16.57
PPS	7.55
PSS	0.55
SOS	0.89–2.24
PPO	0.72
POP + MSO	21.2
POO	34.99
POO + PSL	25.5
SOO	7.53–12.47
PPL	0.08–5.58
OOO	7.79
POL	7.79
OOL + PoOO	2.38
PLL + PLnO	2.43
PLLn	0.14
OLL + OOLn	0.81
LLL	0.52
LLLn	0.13
LLnLn	0.4
LLP	0.47

OLL.....	0.8
OLP.....	4.1
SLL.....	11.14
PPP.....	16.57
OOO.....	14.63
SPO.....	8.02

Poga Oleosa Kernel Oil

Poga oleosa

Triglyceride Composition

PSO.....	1
PPO.....	1
SOO.....	11
OOO.....	37
POL.....	6
OOL.....	18
PLL.....	2
OLL.....	8
LLL.....	3

Prune Kernel Oil

Prunus cerasifera

Triglyceride Composition

POO.....	5
SOO.....	4
OOO.....	55
POL.....	3
OOL.....	22
PLL.....	0.6
OLL.....	9
LLL.....	2

Ricinodendron Heudelotii Kernel Oil

Ricinodendron heudelotii

Triglyceride Composition

PLL.....	4
OLL.....	3
LLL.....	6
EEE.....	15
EEO.....	6
EEP.....	6

EEL.....	42
ELL.....	9
ELO.....	6
ELP.....	3

Safou Oil

Dacryodes edulis

Triglyceride Composition

PSO.....	3
PPO.....	27
POO.....	20
PPL.....	20
POL.....	15
PLL.....	10

Sesame Seed Oil

Sesamum indicum

Triglyceride Composition

PSO.....	0–0.6
SOS.....	0.3–4
PPO.....	0–0.6
POO.....	0–3
SOO.....	2–10
PPL.....	0–2
PSL.....	0–1
SSL.....	0.5–5
OOO.....	4–7
POL.....	0–8
SOL.....	4–21
OOL.....	15–20
PLL.....	0–11
SLL.....	3–10
OLL.....	18–25
LLL.....	5–20
ALO.....	0–0.3
LnLL.....	0–0.5

Sesame Seed Oil

Sesamum radiatum

Triglyceride Composition

PSO.....	1
SOS.....	0.3

PPO	0.3
POO	2
SOO	2
PPL	1
PSL	1
SSL	1
OOO	3
POL	6
SOL	5
OOL	16
PLL	9
SLL	5
OLL	24
LLL	18
ALO	0.3
ALS	0.3
LnLO	0.6
LnLL	2
LnLP	0.8

Soybean Oil

Glycine max

Triglyceride Composition

PSO	0.5–0.7
SOS	0.2
PPO	0.5–0.8
POO	2.1–3.4
SOO	1.0–1.2
PPL	0.9–3.1
PSL	2.3–3.1
SSL	0.7–1.1
OOO	1.4–3.3
POL	6.4–9.4
SOL	1.8–4.2
OOL	6.3–11.8
PLL	0.8–10.23
SLL	2.6–6.4
OLL	16–25.9
LLL	17.6–20.6
AOO	0.5
PBL	0.3–0.5
LnLO	3.7–4.8
LnOP	0.3
LnOO	0.6
LnLL	7.9–8.1
LnLP	2.4–3.7
LnLS	2.3

LnLnL	1.3–3.1
LnLnP	0.1
LnLnS	0.1
LnLnO	0.4

**Soybean Oil
(High Palmitic, HP)**

GMO

Triglyceride Composition

PSO	1.6
PPO	2.2
POO	2
PPL	9.9
PSL	3.3
SSL	1.6
POL	7.7
SOL	2.1
OOL	2.1
PLL	14
SLL	4.5
OLL	6.1
LLL	6.9
PBL	1.5
LnLO	3.4
LnOP	2.7
PPLn	2.2
LnLL	4.9
LnLP	8.1
LnLnL	2
LnLnP	1.9

**Soybean Oil
(High Saturate, Hsat)**

GMO

Triglyceride Composition

PSO	3.7
SOS	3.2
PPO	3.1
PPL	9.6
PSL	13.8
SSL	8.1
POL	5.1
SOL	4.5
PLL	9.6

SLL	6.8
OLL	3.3
LLL	3.9
PBL	3.3
LnOP	4.5
PPLn	3.2
LnLL	3.5
LnLP	6.7
LnLnP	3

Soybean Oil (High Stearic, HS)

GMO

Triglyceride Composition

PSO	2.5
SOS	4.1
POO	1.5
SOO	3.1
PPL	1.7
PSL	7.4
SSL	10.1
OOO	1.4
POL	3.7
SOL	9.8
OOL	2.5
PLL	5
SLL	9.7
OLL	6
LLL	5.9
PBL	2
LnLO	2.3
LnOP	4.4
LnOS	1.9
LnLL	3.6
LnLP	2.3
LnLnL	1.5

Soybean Oil (HP/LLn)

GMO

Triglyceride Composition

PSO	2.9
PPO	3.2
POO	4
SOO	2.8
PPL	6.8

PSL	3.7
OOO	3
POL	9.8
SOL	3.6
OOL	4.9
PLL	14.2
SLL	5
OLL	9.7
LLL	9.4
LnLO	2.9
LnLL	3.2
LnLP	3.2

Soybean Oil (Low Linolenic, LLn)

GMO

Triglyceride Composition

PSO	2.9
POO	4
SOO	3.4
PPL	3
PSL	3.1
OOO	4.6
POL	7.3
SOL	4.5
OOL	8.5
PLL	9.9
SLL	4.5
OLL	16.1
LLL	17.7
LnLO	3
LnLL	3.8

Soybean Oil (Low Saturate, Lsat)

GMO

Triglyceride Composition

SOO	3
OOO	4
POL	3.5
SOL	3.4
OOL	8.4
PLL	4.5
SLL	3.7

OLL	17.8
LLL	23.2
LnLO	6.3
LnOO	3
LnLL	11.3
LnLP	3
LnLnL	3.7

Soybean Oil (Lsat/LLn)

GMO

Triglyceride Composition

POO	3.2
SOO	3.5
OOO	5.6
POL	4.2
SOL	4.6
OOL	11.7
PLL	5
SLL	4.3
OLL	21.6
LLL	24.5
LnLO	3.2
LnLL	4.1

Sunflower Seed Oil

Helianthus annuus

Triglyceride Composition

PSO	0.6
PPO	0.5
POO	1.6
SOO	1.2
PPL	0.8
PSL	1.2
SSL	0.7
OOO	2.5
POL	6.4
SOL	4.2
OOL	11.8
PLL	8.9
SLL	6.4
OLL	25.9
LLL	20.6
AOO	0.5
PBL	0.5

Sunflower Seed Oil (High Linoleic, HL)

GMO

Triglyceride Composition

PSO	0.6
PPO	0.7
POO	0.7
PPL	1.1
PSL	0.8
SSL	0.7
OOO	0.7
POL	3.2
SOL	1
OOL	2.5
PLL	12.9
SLL	2.9
OLL	19.1
LLL	37.5
AOO	0.7

Sunflower Seed Oil (High Oleic, HO)

GMO

Triglyceride Composition

PSO	1.1
PPO	0.2
POO	see SOL
SOO	4.3–11
OOO	73.9
POL	1.6
SOL	10
OOL	6.7
PLL	1
OLL	2.3
LLL	1.5
AOO	1.2

Sunflower Seed Oil (High Palmitic/High Linoleic, HP/HL)

GMO

Triglyceride Composition

PSO	1.4
-----	-----

PPO	3.5
POO	3
PPL	11.9
PSL	2.7
SSL	1.2
OOO	1.3
POL	6.6
SOL	1.9
OOL	1.8
PLL	17.4
SLL	5.1
OLL	4.9
LLL	7.6
PBL	1.4
PoLL	2.6
PoPL	3.5
PoPO	1.4

Sunflower Seed Oil (High Palmitic/High Oleic, HP/HO)

GMO

Triglyceride Composition

PSO	3.7
SOS	2.3
PPO	13.8
POO	31.2
SOO	5
OOO	12.9
POL	6.6
OOL	4.4
SLL	3.5
AOO	2.6
BOO	2.9
PoOO	2.7

Sunflower Seed Oil (High Stearic/High Oleic, HS/HO)

GMO

Triglyceride Composition

PSO	3.7
SOS	3.6
POO	10.5
SOO	25.1
OOO	41.9

OOL	3.2
AOO	3.5
BOO	3.1

Teaseed Oil

Thea sinensis

Triglyceride Composition

PPP	1
PPO	9
POO	25
PPL	3
OOO	21
POL	15
OOL	19
PLL	2
OLL	6
LLL	0.5

Vernonia Seed Oil

Vernonia galamensis

Triglyceride Composition

OOL + LLS	0.5
VVV	43
VVL	21
VVO	8
VVP	8
LLV	4
VVS	6
OLV	2
PLV	2
SLV	1
POV	1
SOV	1
LAV	0.5

Walnut Oil

Juglans regia

Triglyceride Composition

POL	2
OOL	5
PLL	4
SLL	2

OLL.....	10
OLLn.....	0.1
LLL.....	53
LnOP.....	0.1

Watermelon Seed Oil

Citrullus lanatus/C. vulgaris

Triglyceride Composition

POL.....	6.62
SOL.....	5.26
PLL.....	13.5
SLL.....	15.16
OLL.....	21.68
LLL.....	29.49

Winged Bean Oil

Psophocarpus tetragonolobus

Triglyceride Composition

OOE + LLB.....	9
OOS + LLB.....	5

PSL.....	3
SSLg.....	1
OOO.....	11
POB.....	3
POL.....	6
OOL.....	6
OOLn + LLL.....	1
PLL.....	2
OLL.....	3
OLLg.....	5
LLL + OLLn.....	1
BOL.....	21
BOO.....	16
PBL.....	5
PSB.....	2

INDEX

Index Terms

Links

A

<i>Abies alba</i>	91
<i>Abutilon pannosum</i>	176
Acacia Arabica	3
<i>Acacia auriculiformis</i>	3
Acacia Auriculiformis Oil	3
<i>Acacia coriacea</i>	3
Acacia Coriacea Oil	3
<i>Acacia lenticularis</i>	4
Acacia Lenticularis Oil	4
<i>Acacia mellifera</i>	4
Acacia Mellifera Oil	4
<i>Acacia minhassai</i>	4
Acacia Minhassai Oil	4
<i>Acacia mollissima</i>	5
Acacia Mollissima Oil	5
<i>Acacia richardiana</i>	5
Acacia Richardiana Seed Oil	5
<i>Acacia tortilis</i>	5
Acacia Tortilis Oil	5
<i>Acer spp.</i>	7
Achiote Seed Oil	6
<i>Achras sapota</i>	6
Achras Sapota Oil	6
<i>Acioa edulis</i>	6
Acioa Edulis Oil	6

Index Terms**Links**

AcornOil	7
<i>Acrocomia lasiospatha</i>	149
<i>Actinidia chinensis</i>	114
<i>Actinodaphne hookeri</i>	168
<i>Adansonia digitata</i>	133
<i>Adansonia spp.</i>	24
<i>Adonsonia digitata</i>	7
Adonsonia Digitata Seed Oil	7
Aegean Wallflower Oil	7
<i>Aegle marmelos</i>	22
<i>Aesculus hippocastanum</i>	104
<i>Aesculus sinensis</i>	8
Aesculus Sinensis Oil	8
African Mango Oil	8
<i>Afzelia bella</i>	9
Afzelia Bella Oil	9
<i>Aiphanes acanthophylla</i>	150
Ajowan Oil	9
<i>Albizzia lebbeck</i>	9
Albizzia Lebbeck Oil	9
<i>Albizzia zygia</i>	10
Albizzia Zygia Oil	10
<i>Aleurites cordata</i>	218
<i>Aleurites fordii</i>	218
<i>Aleurites moluccana</i>	43
<i>Aleurites montana</i>	10
Aleurites Montana Oil	10
Alewife Oil	229
Alfalfa Oil (Utah)	11
<i>Alliaria petiolata</i>	93
<i>Allium cepa</i>	147
<i>Allium sativum</i>	93

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Allspice Oil	11		
Almond Kernel Oil	11	275	
Almond Oil	12		
<i>Alosa pseudoharengus</i>	229		
Alpine Current Seed Oil	12	275	
<i>Althea rosea</i>	103	280	
<i>Alyogine hakeifolia</i>	13		
Alyogine Hakeifolia Oil	13		
<i>Alyogine huegelii</i>	13		
Alyogine Huegelii Oil	13		
Amaranth Seed Oil	13	14	275
Amaranth Seed Oil (Various)	14	275	
<i>Amaranthus caudatus</i>	13	275	
<i>Amaranthus cruentus/A. paniculatus</i>	14		
<i>Amaranthus hypochondriacus/A. cruentus/ A. edulis</i>	275		
<i>Amaranthus mangostanus</i>	15		
Amaranthus Mangostanus Oil	15		
<i>Amaranthus spp.</i>	14		
<i>Ambloplites rupestris</i>	229		
Ambrette Seed Oil (Raw)	15		
<i>Amoora rohituka</i>	15		
Amoora Rohituka Oil	15		
<i>Anacardium occidentale</i>	46	47	277
Anchovy Oil	229		
Andenopus Breviflorus Oil	16		
<i>Andeopus breviflorus</i>	16		
<i>Anecastrum romanozoffianum</i>	163		
<i>Anethum graveolens</i>	81		
<i>Anfeltia tobuchiensis</i>	16		
Anfeltia Tobuchiensis Oil	16		
<i>Angelica sylvestris</i>	223		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Anise Seed Oil	16		
<i>Annona squamosa</i>	204		
<i>Anthriscus spp.</i>	54		
<i>Apium graveolens</i>	52		
<i>Apodanthera undulata</i>	131		
Apple Seed Oil	17		
Apricot Kernel Oil	17	275	
<i>Aquilegia vulgaris</i>	88		
Arabidopsis Thaliana Seed Oil	18		
<i>Arachis hypogaea</i>	159	160	283
<i>Arctocephalus gazella</i>	260		
Argan Seed Oil	18	275	
<i>Argania spinosa</i>	18	275	
<i>Argemone mexicana</i>	19		
Argemone Oil	19		
<i>Argentina silus</i>	264		
Arrugula Seed Oil	19		
<i>Asparagus officinalis/A. adscender</i>	20		
Asparagus Seed Oil	20		
<i>Astrocaryum spp</i>	217		
<i>Astrocaryum vulgare</i>	217		
<i>Astrocaryum murumuru</i>	136		
<i>Astrocaryum vulgare</i>	150		
<i>Attalea cohune</i>	62		
<i>Attalea speciosa/Orbignya spp.</i>	21		
<i>Avena sativa</i>	143		
<i>Averrhoa carambola</i>	202		
Avocado (Pulp) Oil	20		
Avocado Oil	21		
Azima Tetracantha	21		

Index Terms

Links

B

<i>Beta vulgaris</i>	28	
Babassu Palm Oil (Brazil)	21	
<i>Bactris gasipaes</i>	150	
Bacury (Barcuri) Seed Fat	22	
Bael Seed Oil	22	
Baguacu Pulp Oil	23	
Baguacu Seed Oil	23	
Bahera Seed Oil	24	
<i>Baillonella toxisperma</i>	24	276
Baillonella Toxisperma Kernel Oil	24	276
<i>Balanites aegyptiaca</i>	80	
<i>Balsenidae spp.</i>	271	
Baobab Seed Oil	24	
Barley Oil	25	
<i>Basella rubra</i>	25	
Basella Rubra Seed Oil	25	
Basil Seed Oil	26	
Bass, Rock Oil	229	
Bass, Sea (Farmed)	230	
Bass, Sea (Wild)	231	
Bass, Sea	230	
<i>Bauhinia retusa</i>	26	
Bauhinia Retusa Seed Oil	26	
<i>Bauhinia triandra</i>	27	
Bauhinia Triandra Seed Oil	27	
<i>Bauhinia variegata</i>	27	
Bauhinia Variegata Seed Oil	27	
Bean Oil	27	
Beechnut Kernel Oil	28	
Beef Brisket Fat	231	

Index Terms**Links**

Beef Chuck Fat	231	
Beef Flank Fat	232	
Beef Loin Fat	232	
Beef Plate Fat	232	
Beef Rib Fat	233	
Beef Round Fat	233	
Beef Sirloin Fat	233	
Beet Oil	28	
Bengal Gram (Chickpea) Oil	28	
Benincasa (Winter Squash) Wax	29	
<i>Benincasa hispida</i>	29	
<i>Beradius bairdii</i>	271	
<i>Bertholletia excelsia/B. myrtaceae</i>	37	
Bird Cherry Kernel Oil	29	
Bitter Almond Kernel Oil	29	
Bitter Vetch Seed Oil	30	
Bittersweet Oil	30	
<i>Bixa orellana</i>	6	
<i>Black - Brassica juncea/B. nigra;White/</i>		
<i>Yellow - Sinapsis alba</i>	137	
Black Gram (Mung Bean) Oil	30	
Blackberry Seed Oil	31	
Blackcurrant Oil	31	276
Bladdernut Oil	32	
<i>Bliphia sapida</i>	32	
Bliphia Sapida Seed Oil	32	
Blue/Purple Morning Glory Seed Oil	32	
Blueberry Seed Oil	33	
<i>Bombax constantum</i>	33	
Bombax Constantum Seed Oil	33	
<i>Bombax malabaricum</i>	69	
<i>Bombax munguba</i>	33	

Index Terms**Links**

Bombax Munguba Seed Oil	33	
Borage Oil (Dwarf)	35	
Borage Oil	34	276
<i>Borago officinalis</i>	34	276
<i>Borago pygmea</i>	35	
Borneo Tallow	35	
Boxwood Seed Oil	35	
<i>Brachyandra calophylla</i>	36	
Brachyandra Calophylla Oil	36	
<i>Brachystegia nigerica</i>	36	
Brachystegia Nigerica Oil	36	
<i>Brassica campestris</i>	179	
<i>Brassica carinata</i>	138	
<i>Brassica chinensis</i>	36	
Brassica Chinensis Seed Oil	36	
<i>Brassica juncea</i>	136	
<i>Brassica napus</i>	177	178
<i>Brassica nigra</i>	138	
<i>Brassica oleracea</i>	37	
Brassica Oleracea Seed Oil	37	
<i>Brassica rapa</i>	218	
<i>Brassicaceae columbia</i>	18	
Brazil Nut Oil	37	
Brown Algae Oil	38	
<i>Brunfelsia americana</i>	38	
Brunfelsia Americana Seed Oil	38	
Buchanania Lanzas Oil	39	276
<i>Buchanania lanzan/B. latifolia</i>	39	276
<i>Buchanania latifolia</i>	57	
Buffalo Gourd Oil	39	
<i>Butea frondosa/B. monosperma</i>	149	
Butterfat	234	

Index Terms**Links**

Butternut Oil	39	
<i>Buttia capitata</i>	151	
<i>Butyrospermum parkii/Vitellaria paradoxa</i>	193	
<i>Buxus sempervirens</i>	35	
C		
<i>Caesalpinia pulcherrima</i>	40	
Caesalpinia Pulcherrima Seed Oil	40	
<i>Caesalpinia spinosa</i>	209	
<i>Calendula officinalis</i>	40	129
Calendula Seed Oil	40	
California Laurel Seed Oil	40	
<i>Calocarpum mammosum</i>	128	
<i>Calophyllum inophyllum</i>	83	
<i>Camelina sativa</i>	41	
Cameline Oil (False Flax)	41	
<i>Camella sasanqua</i>	213	
<i>Camellia japonica</i>	213	
<i>Camellia oleifera</i>	41	276
Camellia Oleifera Seed Oil	41	276
<i>Camellia sinensis</i>	42	277
Camellia Sinensis Seed Oil	42	277
Camphor Kernel Fat (Camphor Tree)	42	
<i>Canarium commune</i>	85	
<i>Canarium ovatum</i>	163	283
<i>Canarium tramdenum</i>	42	
Canarium Tramdenum Oil	42	
<i>Canavalia ensiformis</i>	109	
Candelilla Wax	43	
Candlenut (Lumbang) Oil	43	
<i>Cannabis sativa</i>	101	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Cantaloupe Seed Oil	43		
Cape Marigold Seed Oil	44	277	
Capelin Oil	234		
<i>Capsella bursa-pastoris</i>	193		
<i>Capsicum annuum</i>	180		
Caraway Seed Oil	44		
<i>Carica papaya</i>	156		
<i>Carlina acaulis/C. corymbosa</i>	44		
Carlina Thistle Oil	44		
Carnauba Wax	45		
Carob Bean Oil	45		
Carp Lipids	235		
Carrot Seed Oil	46		
<i>Carthamus oxycanthus</i>	170		
<i>Carthamus tinctorius</i>	183	184	
<i>Carum carvi</i>	44		
<i>Carya illinoensis</i>	283		
<i>Carya illinoensis/C. olivaeformis</i>	161		
<i>Caryaovata ovata</i>	103		
<i>Caryocar villosum</i>	167		
Casca-de Tatu Seed Oil	46		
Cashew Nut Oil	46	47	277
Cassava Oil	47		
<i>Cassia alata</i>	48		
Cassia Alata Oil (Ringworm Shrub)	48		
<i>Cassia obtusifolia</i>	49		
<i>Cassia occidentalis</i>	48		
Cassia Occidentalis Oil (Wild Coffee)	48		
Cassia Seed Oil	49		
<i>Cassia siamea</i>	50		
Cassia Siamea Seed Oil	50		
<i>Cassia siberiana</i>	50		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Cassia Siberiana Seed Oil	50	
<i>Castanea mollissima</i>	54	
Castor Oil	51	277
Catfish Lipids	235	
<i>Catostromus commersonni</i>	266	
Cay-Cay Fat	51	
<i>Ceiba pentandra/Bombax spp.</i>	112	
<i>Celastrus orbiculatus</i>	51	277
Celastrus Orbiculatus Seed Oil	51	277
<i>Celastrus paniculatus</i>	84	
<i>Celastrus scandens</i>	30	
Celery Seed Oil	52	
<i>Centorhinus maximus</i>	261	
<i>Centranthus ruber</i>	219	
<i>Centrophorus squamosus</i>	261	
<i>Centrosyllum ritteri</i>	240	
<i>Ceratonia siliqua</i>	45	
<i>Cercis siliquastrum</i>	111	
Chaulmoogra Oil	52	
<i>Cheiranthus cheiri</i>	7	
Cherry Kernel (Cherry Stone) Oil	52	
Cherry Kernel Oil	53	277
Cherry Laurel Oil	54	
Chervil Seed Oil	54	
Chestnut Oil (Chinese)	54	
Chia Oil	54	
Chicken Egg Lipids, Whole Egg	236	
Chicken Egg Lipids, Yolk	236	
Chicken Fat	236	
Chickling Vetch Seed Oil	55	
Chinese Melon Seed Oil (Bitter Gourd)	55	
Chinese Soapberry Seed Oil	56	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms

Links

Chinese Vegetable Tallow (Mesocarp Fat; Chinese Tallow Tree)	57	
Chinook Salmon Lipids	237	
Chirongi Oil	57	
<i>Chrysanthemum coronarium</i>	57	
Chrysanthemum Coronarium Oil	57	
<i>Chrysanthemum corymbosum</i>	209	
Chufa (Tigernut, Nut-sedge) Oil	58	
<i>Cicer arietinum</i>	28	
<i>Cimicifuga racemosa</i>	58	
Cimicifuga Racemosa Oil	58	
<i>Cinnamomum camphora</i>	42	
<i>Cistus albidus</i>	182	
<i>Citrullus colocynthis</i>	59	
Citrullus Colocynthis Oil	59	
<i>Citrullus lanatus/C. vulgaris</i>	221	289
<i>Citrus colocynthis</i>	214	
<i>Citrus aurantifolia</i>	119	281
<i>Citrus grandis/C. paradisi/C. maxima</i>	97	
Citrus Seed Oil	59	
<i>Citrus sinensis</i>	148	
<i>Citrus spp</i>	59	118
Cloudberry Seed Oil	59	277
Cocoa Butter	60	278
Coconut Oil	60	278
<i>Cocosnucifera</i>	60	278
Cod Liver Oil	237	
Cod, Atlantic	238	
Cod, Pacific	238	
<i>Coffea arabica</i>	61	62
Coffee Bean Oil (Raw, Brazil)	61	
Coffee Bean Oil (Raw, Ethiopia, Arabia)	62	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Coffee Bean Oil (Roasted)	62
Cohune Nut Oil (Palm Oil)	62
<i>Coincya longirostra</i>	63
Coincya Longirostra Oil	63
<i>Coincya monensis</i>	63
Coincya Monensis Oil	63
<i>Coincya rupestris</i>	63
Coincya Rupestris Oil	63
<i>Coincya transtagana</i>	64
Coincya Transtagana Oil	64
<i>Colocynthis citrullus</i>	85
Common Hawthorn Oil	64
Common Hop Oil	65
Common Jasmine Oil	65
Common Juniper Oil	65
Comphrey Seed Oil	66
<i>Conium maculatum</i>	170
<i>Connarus paniculatus</i>	66
Connarus Paniculatus Oil	66
<i>Copemicia prunifera</i>	45
<i>Corchorus olitorius</i>	66
Corchorus Olitorius Oil	66
<i>Corchorus spp</i>	111
<i>Cordia rothii</i>	67
Cordia Rothii Seed Oil	67
<i>Coregonus clupeaformis</i>	272
Coriander Seed Oil	67
<i>Coriandrum sativum</i>	67
Com Oil (High Oleic)	68
Com Oil (Low Saturate)	68
Com Oil (Maize)	68
<i>Comus sanguinea</i>	83

Index Terms**Links**

<i>Corylus avellana</i>	100	279
<i>Corynocapus laevigatus</i>	113	
Cotton Tree Oil	69	
Cotton Wax	69	
Cottonseed Oil	69	278
<i>Couepia longipendula</i>	70	
Couepia Longipendula Oil	70	
Cowpea Oil	71	
Crab Lipids, King	239	
Crab Lipids, Queen	239	
<i>Crambe abyssinica</i>	71	
Crambe Oil	71	
<i>Crataegus monogyna</i>	64	
<i>Crepis alpina</i>	278	
Crepis Alpina Seed Oil	71	278
<i>Crepis spp.</i>	71	
Cress Oil	72	
<i>Crotalaria juncea</i>	72	
Crotalaria Juncea Oil	72	
Croton Seed Oil	72	
<i>Croton tiglium</i>	72	
<i>Cryptolepis buchmani</i>	73	
Cryptolepis Buchnani Oil	73	
<i>Cryptostegia grandiflora</i>	73	
Cryptostegia Grandiflora Seed Oil	73	
<i>Cucumeropsis edulis</i>	73	
Cucumeropsis Edulis Seed Oil	73	
<i>Cucumeropsis manni</i>	73	
Cucumeropsis Manni Seed Oil	73	
<i>Cucumis melo</i>	43	
<i>Cucumis sativus</i>	74	
Cucumis Sativus Seed Oil	74	

Index Terms**Links**

<i>Cucurbita foetidissima</i>	39	
<i>Cucurbita maxima</i>	225	
<i>Cucurbita palmata</i>	132	
<i>Cucurbita pepo</i>	74	173
Cucurbita Pepo Seed Oil	74	
Cumin Seed Oil	75	
<i>Cuminum cyminum</i>	75	
<i>Cupania anacardioides</i>	75	195
Cupania Anacardioides Seed Oil	75	
<i>Cuphea fruticosa</i>	77	
<i>Cuphea lythracea</i>	82	
Cuphea Seed Oil (High Capric)	75	
Cuphea Seed Oil (High Caprylic)	76	
Cuphea Seed Oil (High Lauric)	76	
Cuphea Seed Oil (High Linoleic)	77	
<i>Cuphea viscosissima</i>	77	
Cuphea Viscosissima Seed Oil	77	
<i>Cuphea wrightii</i>	76	
Cupu Assu Kernel Oil	77	
Currant Seed Oil	78	
<i>Cyamopsis tetragonoloba</i>	98	
<i>Cydonia oblonga</i>	175	
<i>Cyperus esculentus</i>	58	
<i>Cyprinus carpio</i>	235	

D

<i>Dacryodes edulis</i>	185	284
<i>Dacryodes rostrata</i>	110	
<i>Daniella ogea</i>	78	
Daniellia Ogea Seed Oil	78	
Date Palm Oil	79	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Daucus carota</i>	46		
<i>Deania calceus</i>	239		
<i>Delavaya toxocarpa</i>	79		
Delavaya Toxocarpa Seed Oil	79		
<i>Delonix elata</i>	79		
Delonix Elata Seed Oil	79		
<i>Delphinium ajacis</i>	80		
Delphinium Ajacis Oil	80		
Desert Date Oil	80		
Dhupa Butter	81		
Dhupa Fat (Malabar Tallow)	81		
<i>Dicentrarchus labrax</i>	230	231	
Dill Seed Oil	81		
<i>Dimocarpus longan</i>	82		
Dimocarpus Longan Seed Oil	82		
<i>Dimorphotheca pluvialis</i>	44	136	277
<i>Diospyros mespiliformis</i>	82		
Diospyros Mespiliformis Seed Oil	82		
<i>Diploknema butyracea</i>	92		
Diploptychea Painteri Seed Oil	82		
<i>Diploptychia painteri</i>	76		
<i>Dipteryx odorata</i> / <i>Erythrina spp</i>	215		
Dogfish, Birdbeak Muscle Oil	239		
Dogfish, Sping Liver Oil	240		
Dogfish, Spur Liver Oil	240		
Dogwood Oil	83		
<i>Dolichos biflorus</i>	104		
Dolphin Dorsal Blubber	241		
Domba Fat		83	
Dover Sole Lipids	241		
Duck Fat	242		
Dukudu Seed Oil	84		

Index Terms**Links**

Dunchi Fiber Seed Oil 84

E

Eel Lipids	242	
Eggplant Seed Oil	84	
Egusi Seed Oil	85	
Egyptian Riverhemp Seed Oil	85	
<i>Elaeagnus angustifolia</i>	147	
<i>Elaeis guineensis</i>	151	153
<i>Elaeis guineensis dura</i>	152	154
<i>Elaeis oleifera</i>	152	
<i>Elaeis oleiferai/E. melanococca</i>	154	
Elemi Oil	85	
<i>Eleusine coracana</i>	91	
Elm Seed Oil	86	
Emu Oil	242	
<i>Entandrophragma angolense</i>	86	
Entandrophragma Angolense Seed Oil	86	
<i>Enterolobium cyclocarpium</i>	87	
Enterolobium Cyclocarpium Seed Oil	87	
Ephedra Gerardiana	87	
<i>Erisma calcaratum</i>	108	
<i>Eruca sativa</i>	210	
<i>Erythrophleum fordii</i>	87	
Erythrophleum Fordii Oil	87	
<i>Esox lucius</i>	253	
Esparto Wax	88	
<i>Euphausia superba</i>	246	
<i>Euphorbia antisiphilitica/E. cerifera</i>	43	
<i>Euphorbia lagascae</i>	88	
Euphorbia Lagascae Seed Oil	88	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Euphoria longana</i>	122	
European Columbine	88	
Evening Primrose Oil	89	279

F

<i>Fagus orientalis/F. sylvatica</i>	28	
Fennel Seed Oil	90	
Fenugreek Seed Oil	90	
<i>Ferula communis</i>	94	
<i>Fevillea cordiflora</i>	190	
<i>Ficus carica</i>	90	
Fig Seed Oil	90	
Finger Millet Oil	91	
Fir Seed Oil	91	
<i>Foeniculum officinale/F. vulgare</i>	90	
<i>Fokienia hodginsii</i>	91	
Fokienia Hodginsii Oil	91	
Foxtail Millet Oil	91	
<i>Fragaria vesca</i>	204	
Fucus Serratus Oil	92	
Fulwa Butter (Indian Butter Tree)	92	
Fungal Oil	92	279

G

<i>Gallus gallus domesticus</i>	236	
Gamboge Butter (Kernel Fat)	93	
<i>Garcinia indica</i>	114	280
<i>Garcinia morella</i>	93	
Garlic Mustard Seed Oil	93	
Garlic Oil	93	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Gevuina avellana</i>	99			
Ghee (Buffalo Milk) Butter	243			
Giant Fennel Oil	94			
<i>Gleditsia triacanthos</i>	103			
<i>Gliricidia maculata</i>	94			
Gliricidia Maculata Seed Oil	94			
<i>Glycine max</i>	198	201	285	
<i>Glyricidia sepium</i>	94			
Glyricidia Sepium Seed Oil	94			
<i>GMO</i>	198	199	200	201
	205	206	207	285
	286	287	288	
Gnetum Oil	95			
<i>Gnetum spp</i>	95			
<i>Gomphera globosa</i>	95			
Gomphera Globosa Seed Oil	95			
Goose Fat	243			
Gooseberry Seed Oil	95			
<i>Gossypium spp</i>	69	278		
Grape Seed Oil	96			
Grapefruit Seed Oil	97			
Green Algae Oil	97			
Green Gram Oil	97			
Guar Bean Oil	98			
Guava Seed Oil	98			
Guinea Fowl Egg Fat	243			
<i>Guizotia abyssinica</i>	141	142		

H

Haddock	244
Halibut, Greenland Oil	244

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Hannoa Undulata Seed Oil	98	279
<i>Hannoa undulate/H. simarubacea</i>	98	279
Hazelnut Oil (Chilean)	99	
Hazelnut Oil (Filbert)	100	279
Hazelnut Oil (Predominantly Turkey)	100	
<i>Hedera helix</i>	108	
<i>Heisteria silvanii</i>	46	
<i>Helianthus annuus</i>	204	287
Hempseed Oil	101	
Herring Oil	245	279
<i>Hesperis matronalis</i>	208	
<i>Heteranthus epilobiifolia</i>	76	101
Heteranthus Epilobiifolia Seed Oil	101	
<i>Heterodon koehneana</i>	75	
<i>Hevea brasiliensis</i>	182	
<i>Hibiscus abelmoschus</i>	15	
Hibiscus Cannabinus (Kenaf Seed) Oil	102	280
<i>Hibiscus cannabinus</i>	102	280
Hibiscus Coatesii	102	
<i>Hibiscus esculentus</i>	145	282
<i>Hibiscus sabdariffa</i>	102	280
Hibiscus Sabdariffa Oil	102	280
Hickory Nut Oil	103	
Hollyhock Oil	103	280
Honey/Thorny Locust Oil	103	
<i>Hoplostethus atlanticus</i>	251	
<i>Hordeum vulgare</i>	25	
Horse Chestnut Oil	104	
Horse Fat	245	
Horsegram Oil	104	
<i>Humulus lupulus</i>	65	
<i>Hydnocarpus spp</i>	52	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms

Links

I

Illipe Butter	104	280
Indian Almond Oil	105	
<i>Indigofera enneaphylla</i>	105	
Indigofera Enneaphylla Seed Oil	105	
<i>Inia geoffrensis</i>	241	
<i>Ipomea indica</i>	32	
<i>Ipomoea aquatica</i>	106	
Ipomoea Aquatica Oil	106	
<i>Ipomoea reptans</i>	106	
Ipomoea Reptans Oil	106	
Ironwood/Nahar Fat (Indian Rose Chestnut)	107	
<i>Irvingia gabonensis</i>	8	107 280
Irvingia Gabonensis Kernel Fat (Dika Fat)	107	280
<i>Irvingia oliveri</i>	51	
Isano (Boleko) Seed Oil	107	
<i>Isatis tinctoria</i>	225	
<i>Isochrysis galbana</i>	129	
<i>Isotoma longiflora</i>	108	
Isotoma Longiflora Seed Oil	108	
Ivy Seed Oil	108	

J

Jaboty Tallow (Fat, Butter)	108	
Jack Bean Oil	109	
Japan Tallow (Wax)/(Sumac Wax)	109	
<i>Jasminum officinale</i>	65	
<i>Jatropha curcas</i>	110	162
Jatropha Oil (see also Physic Nut Oil)	110	
Java Almond Fat	110	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Java Olive Oil	110		
<i>Jessenia bataua</i>	157		
Jojoba Oil	111		
Judas Tree Oil	111		
<i>Juglans cinerea</i>	39		
<i>Juglans regia</i>	220	221	288
<i>Juniperus communis</i>	65		
Jute Seed Oil	111		

K

Kaiphall Oil	112		
Kanya Tallow (Fat)	112		
Kapok Seed Oil	112		
Karaka Seed Oil	113		
Karanja (Pongram) Oil	113		
Katio Fat	114		
Khakan (Pelu) Fat	114		
Kiwi Seed Oil	114		
Kokum Butter	114	280	
Kombo Butter	115		
Korean Pine Seed Oil	115	281	
Krill Oil	246		
Kusum Oil (Macassar/Paka Oil)	115		

L

<i>Lallemantia canescens/L. iberica/</i>			
<i>L. royleana</i>	116		
Lallemantia Oil	116		
Lamb Shoulder Fat	246		
<i>Laminaria japonica</i>	38		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Lard (Rendered Pork Fat)	246	
<i>Larix sibirica</i>	116	
Larix Sibirica Seed Oil	116	
<i>Lathyrus cicera</i>	30	
<i>Lathyrus odoratus</i>	207	
<i>Lathyrus sativus</i>	55	
Laurel Berry (Bay Berry) Oil	117	
<i>Laurus nobilis</i>	117	
<i>Lawrencia viridigrisea</i>	117	
Lawrencia Viridigrisea Oil	117	
<i>Lemna minor</i>	117	
Lemna Minor Oil	117	
Lemon Seed Oil	118	
<i>Lens esculentus</i>	118	
Lentil Seed Oil	118	
<i>Lepidum sativum</i>	72	
<i>Lesquerella fendleri</i>	118	
Lesquerella Fendleri Seed (Bladderpod) Oil	118	
<i>Lesquerella perforata</i>	119	
Lesquerella Perforata Seed Oil	119	
<i>Lesquerella recurvata</i>	119	
Lesquerella Recurvata Seed Oil	119	
<i>Licania rigida</i>	145	
Lime Seed Oil	119	281
<i>Limnanthes alba</i>	130	
<i>Limnanthes douglasii</i>	130	
Linden Seed Oil	120	
<i>Lindera benzoin</i>	201	
<i>Lindera umbellata</i>	120	
Lindera Umbellata Seed Oil	120	
Lingonberry Seed Oil	120	
Linseed Oil (Flax)	121	281

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Linseed Oil (Low Linolenic Flax)	121	
<i>Linum usitatissimum</i>	121	281
<i>Litchi chinensis</i>	122	
Litchi Chinensis Seed Oil	122	
Longan Seed Oil	122	
<i>Louchocarpus sericens</i>	123	
Louchocarpus Sericens Seed Oil	123	
<i>Luffa cylindrica</i>	123	
Luffa Cylindrica Seed Oil	123	
Lupin (Lupine) Seed Oil	124	125
<i>Lupinus albus</i>	124	
<i>Lupinus angustifolius</i>	124	
<i>Lupinus luteus</i>	124	
<i>Lupinus mutabilis</i>	125	
<i>Lupinus termis</i>	125	
Lupu Fat	125	
<i>Lycopersicon lycopersicum/L. esculentum</i>	215	

M

Maasbanker Oil	247	
<i>Macadamia integrifolia</i>	126	
Macadamia Nut Oil	126	
<i>Macassar schleicheratrijuga/Schleicheria</i> <i>trijuga</i>	115	
Mackerel Oil	247	
Mackerel Oil, Jack Pacific	248	
Mackerel, Atlantic Oil	248	
<i>Madhuca butyraceae</i>	162	283
<i>Madhuca indica</i>	127	
<i>Madhuca latiflora/M. longiflora/M. indica/</i> <i>Bassia latiflora/B. longiflora</i>	104	280

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Madhuca latifolia</i>	127	281
<i>Madhuca latifolia/M. longifolia</i>	135	
<i>Madhuca mottleyana</i>	114	
Madia Oil	126	
<i>Madia sativa</i>	126	
Madras Thorn Seed Oil	127	
Mahua Fat	127	281
Mahua Oil	127	
<i>Mallotus villosus</i>	234	
<i>Malus deomestica</i>	17	
Mammy Apple Seed Oil	128	
<i>Mangifera indica</i>	128	
Mango Pulp Oil	128	
Mango Seed Oil	128	
<i>Manihot esculenta</i>	47	
Marigold Seed Oil	129	
Marine Microalga Fatty Acid Extract	129	
<i>Maximilana maripa</i>	152	
Meadowfoam Seed Oil (Alba)	130	
Meadowfoam Seed Oil (Douglas)	130	
<i>Medicago sativa</i>	11	
Mediterranean Seagrass Oil	130	
<i>Melia indica/Azadirachta indica</i>	140	
Melon Loco Oil	131	
Menhaden Oil	249	
<i>Merlangius merlangus</i>	272	
<i>Mesua ferrea</i>	107	
Mexican Palo Verd (Jerusalem Thorn)		
Seed Oil	131	
<i>Microstomus kitt</i>	265	
Millet Oil (Pearl Millet)	131	
Millet Oil (Proso Millet)	132	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Milletia thonningii</i>	132	
Milletia Thonningii Seed Oil	132	
<i>Mitracarpus villosus</i>	144	
Mock Orange Oil	132	
<i>Momordica charantia</i>	55	
<i>Momordica cochinchinensis</i>	133	
Momordica Cochinchinensis Seed Oil	133	
Monkey Pod Seed Oil	133	
Monkey-bread Tree Oil	133	
<i>Moringa oleifera</i>	134	
Moringa Oleifera Seed (Ben) Oil	134	
<i>Moringa peregrina</i>	135	281
Moringa Peregrina Seed Oil	135	281
<i>Morone americanus</i>	252	
<i>Mortierella alpina</i>	92	279
<i>Morus alba</i>	136	
Mowrah Butter	135	
Mulberry Seed Oil	136	
Mullet Oil	250	
Munch Seed Oil	136	
Murumuru Tallow	136	
Mustard Greens Seed Oil	136	
Mustard Seed Oil (Black)	138	
Mustard Seed Oil (Oriental)	138	
Mustard Seed Oil (White/Yellow)	139	
Mustard Seed Oil	137	
Mustard Seed Oil, Abyssinian	138	
<i>Myrica pensylvanica</i>	139	
Myrica Wax	139	
<i>Myristica fragrans</i>	142	
<i>Myristica malabarica</i>	112	

Index Terms

Links

N

Nanking Cherry Kernel Oil	139	
<i>Nasturtium officinale</i>	221	
Nectarine Seed Oil	140	
Neem (Margosa) Oil	140	
Neou Seed Oil	140	
<i>Nephelium lappaceum</i>	141	176
Nephelium Lappaceum Oil	141	
<i>Nicotiana tabacum</i>	214	
<i>Nigella sativa</i>	141	
Nigella Seed (Black Cumin) Oil	141	
Niger Fruit Oil	141	
Niger Seed Oil	142	
Norway Pout Oil	250	282
<i>Numida meleagris</i>	243	
Nutmeg Butter (Oil)	142	

O

Oat Bean Oil	143	
Oat Oil	143	
Ochoco Butter (Kernel Fat)	144	282
<i>Ocimum spp.</i>	26	
<i>Oenothera biennis</i>	89	279
Ogwu Ugwo Seed Oil	144	
Oil Bean Oil	144	
Oiticica Oil	145	
Okra Seed Oil	145	282
<i>Olea europaea</i>	146	282
Olive (Wild) Oil, Kandarakkara Oil	146	

Index Terms**Links**

Olive Oil (for quality grade reference values see IOC documentation)	146	282		
Olive Oil	146			
Olive Oil, Wild/Russian	147			
<i>Oneguekoa gore</i>	107			
Onion Seed Oil	147			
Onosmodium Hispidissimum	148			
Orange Roughy	251			
Orange Seed Oil	148			
<i>Oryza sativa</i>	180			
<i>Osmerus mordax</i>	263			
Otoba Butter (American Nutmeg Butter)	148			
Ouricuri Tallow	149			
Oyster Lipids (American)	251			
Oyster Lipids (European)	251			
 P				
<i>Pachyrhizus spp.</i>	225			
Palas Oil	149			
Palm Kernel Oil	149	150	151	152
Palm Oil	153	154		
Palm Olein	155			
Palm Stearin	155			
<i>Papaver somniferum</i>	171			
Papaya Seed Oil	156			
<i>Parinarium macrophyllum</i>	140			
<i>Parkia biglandulosa</i>	156			
Parkia Biglandulosa Seed Fat	156			
<i>Parkinsonia aculeata</i>	131			
Parsley Seed Oil	157			
Parsnip Oil	157			

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Passiflora edulis</i>	157	
Passion Fruit Seed Oil	157	
<i>Pastinaca sativa</i>	157	
Pataua Palm Oil (Pulp)/(Seje Oil)	157	
<i>Paullinia elegans</i>	195	
Paullinia Elegans Seed Oil	158	
Peach Kernel (Pit) Oil	158	283
Peanut (Groundnut) Oil	159	283
Peanut Oil (High Oleic)	160	
Pear Seed Oil	160	161
Pecan Nut Oil	161	283
<i>Penaeus aztecus aztecus</i>	263	
<i>Pennaesus spp.</i>	262	
<i>Pennaesus vannanei</i>	263	
<i>Pennisetum americanum</i>	131	
<i>Pentaclethera macrophylla</i>	143	
<i>Pentaclethra macrophylla</i>	144	
<i>Pentadesma butyracea</i>	112	
Perch, White Oil	252	
<i>Perilla frutescens</i>	162	
Perilla Oil	162	
<i>Persea americana</i>	20	
<i>Persea gratissima</i>	21	
<i>Petroselinum sativum</i>	157	
<i>Phaseolus spp.</i>	27	
<i>Phoenix dactylifera</i>	79	
Phulwara Butter	162	283
Physic Nut Oil (Ratanjyor Oil)	162	
<i>Picea abies</i>	202	
Pig Fat	252	
Pike, Northern Oil	253	
Pili Nut Oil	163	283

Index Terms**Links**

<i>Pimenta dioica</i>	11			
<i>Pimpinella acuminata</i>	163			
Pimpinella Acuminata Seed Oil	163			
<i>Pimpinella anisum</i>	16			
<i>Pindarea fastuosa</i>	23			
Pindo Palm Kernel Oil	163			
Pine Needle Oil	164			
Pine Nut Oil	164	165	166	167
<i>Pinus banksiana spp.</i>	164			
<i>Pinus cembra</i>	203			
<i>Pinus cembroides edulis</i>	164			
<i>Pinus halepensis spp.</i>	165			
<i>Pinus koraiensis</i>	115	281		
<i>Pinus monophylla</i>	165			
<i>Pinus pinaster</i>	166			
<i>Pinus pinea</i>	166			
<i>Pinus ponderosa spp</i>	167			
<i>Pinus sylvestris</i>	164			
Piper Nigrum (Pepper) Seed Oil	167			
<i>Piper nigrum</i>	167			
Piqui Oil	167			
Pisa Oil	168			
Pistachio Nut Oil	168			
<i>Pistacia atlantica</i>	169			
Pistacia Atlantica Fruit Oil	169			
<i>Pistacia vera</i>	168			
<i>Pisum sativum</i>	207			
<i>Pithecellobium dulce</i>	127			
<i>Platonia insignis</i>	22			
Plum Kernel Oil	169			
<i>Poga oleosa</i>	170	284		
Poga Oleosa Kernel Oil	170	284		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Poison Hemlock Oil	170		
Poli Oil (Wild Safflower Seed Oil)	170		
Pollock Oil	253		
Pomegranate Seed Oil	171		
Pompano	253		
<i>Pongamia glabra</i>	113		
<i>Panicum miliaceum</i>	132		
Poppyseed Oil	171		
<i>Posidonia oceanica</i>	130		
Pout, Norway Oil	254		
Premier Jus (Beef/Sheep Tallow)	254		
<i>Prosopis africana</i>	171		
Prosopis Africana Seed Oil	171		
Prune Kernel Oil	172	284	
<i>Prunus amygdalus</i>	12		
<i>Prunus armeniaca</i>	17	275	
<i>Prunus avium</i>	53	277	
<i>Prunus cerasifera</i>	172	284	
<i>Prunus cerasus</i>	52		
<i>Prunus domestica</i>	169		
<i>Prunus dulcis</i>	11	29	275
<i>Prunus laurocerasus</i>	54		
<i>Prunus padus</i>	29		
<i>Prunus persica</i>	158	283	
<i>Prunus persica var nectarina</i>	140		
<i>Prunus tomentosa</i>	139		
<i>Prunus vulgaris</i>	197		
<i>Pseudotsuga menziesii</i>	172		
Pseudotsuga Menziesii Seed Oil	172		
<i>Psidium guajava</i>	98		
<i>Psophocarpus tetragonolobus</i>	224	289	
<i>Pterocarpus osun</i>	173		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms

Links

Pterocarpus Osun Seed Oil	173
<i>Pterocarpus santalinoides</i>	173
Pterocarpus Santalinoides Seed Oil	173
Pumpkin Seed Oil	173
<i>Punica granatum</i>	171
<i>Pycnanthus kombo</i>	115
<i>Pyrus communis</i>	160
<i>Pyrus domestica</i>	160

Q

<i>Quamoclit coccinea</i>	174
<i>Quamoclit phoenicea</i>	174
Quamoclit Seed Oil	174
Quince Seed Oil	175

R

Rabbit Fat	255
<i>Radyera farragei</i>	175
Radyera Farragei Oil	175
Ragged Mallow Seed Oil	176
<i>Raja radiata</i>	255
Rambutan Tallow	176
Rapeseed Oil (Low Erucic, Canola)	177
Rapeseed Oil (Low Linolenic, Canola)	178
Rapeseed Oil	177
<i>Raphanus sativus</i>	178
Raphanus Sativus Seed Oil	178
Raspberry Seed Oil	179
Ravison Oil	179
Ray, Starry Muscle Oil	255

This page has been reformatted by Knovel to provide easier navigation.

Index Terms

Links

Red Pepper (Paprika) Seed Oil	180		
Redfish Oil	256		
<i>Reinhardtius hippoglossoides</i>	244		
<i>Rhus succedanea</i>	109		
<i>Ribes alpinum</i>	12	180	275
Ribes Alpinum Seed Oil	180		
<i>Ribes grossularia</i>	95		
<i>Ribes nigrum</i>	31	276	
<i>Ribes spp.</i>	78		
Rice Bran (Germ) Oil	180		
<i>Ricinodendron heudelotii</i>	181	284	
Ricinodendron Heudelotii Kernel Oil	181	284	
<i>Ricinus communis</i>	51	277	
Rock/Sun Rose Oil	182		
<i>Rosa canina</i>	182		
Rosehip Oil	182		
Rosemary Oil	182		
<i>Rosmarinus officinalis</i>	182		
(Para) Rubber Seed Oil	182		
<i>Rubus chamaemorus</i>	59	277	
<i>Rubus fruticosus</i>	31		
<i>Rubus idaeus</i>	179		
Rye Germ (Meal) Oil	183		

S

Sablefish Lipids	256		
Safflower Oil (High Linoleic)	183		
Safflower Seed Oil (High Oleic)	184		
Safflower Seed Oil	183		
Safou Oil	185	284	
Sage Oil	185		

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Sal Fat	185	
<i>Salicornia bigelovii</i> / <i>Maroh samphire</i>	186	
Salicornia Seed Oil	186	
<i>Salmo salar</i>	257	
Salmon, Atlantic Oil (Muscle, Iceland)	257	
Salmon, Atlantic Oil (Whole Body Caught in Wild, Canada)	257	
Salmon, Oil	257	
<i>Salvadora oleoides</i> / <i>S. persica</i>	114	
<i>Salvania cuculata</i>	186	
Salvania Cuculata Oil	186	
<i>Salvelinus namaycush namaycush</i>	268	
<i>Salvelinus namaycush siscowet</i>	269	
<i>Salvia hispanica</i>	54	
<i>Salvia officinalis</i>	185	
<i>Samanea saman</i>	133	187
Samanea Saman Seed Oil (Monkey Pod)	187	
Sand Eel Oil	258	
<i>Sapindaceae</i> (Soapberry Family)	158	
<i>Sapindus drummondii</i>	222	
<i>Sapindus mukorossi</i>	56	187
Sapindus Mukorossi Oil	187	
<i>Sapindus murorossi</i>	194	
<i>Sapindus trifoliatus</i>	194	195
<i>Sapium sebiferum</i>	57	203
Sardine, Pilchard Oil	258	
<i>Sargassum pallidum</i>	38	
<i>Schinziophyton rautanenii</i>	188	
Schinziophyton Rautanenii Seed Oil	188	
Schizochytrium Aggregatum (ATCC 28209) Fungal Lipids	188	
<i>Schizochytrium aggregatum</i>	188	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

<i>Schizonepeta tenuifolia</i>	188		
Schizonepeta Tenuifolia Oil	188		
<i>Sciadopytis verticillata</i>	189		
Sciadopytis Verticillata Seed Oil	189		
<i>Sclerocarya birrea</i>	189		
Sclerocarya Birrea Seed Oil	189		
<i>Scomber scombrus</i>	248		
<i>Scyphocephalum ochocoa</i>	144	282	
Seagrass Oil	189		
Seal Blubber Oil, Harp	259		
Seal Oil, Harp	259		
Seal Skin Oil	260		
Seal, Antarctic Fur Seal	260		
<i>Sebastes marinus</i>	256		
<i>Secale cereale</i>	183		
Sequa Oil	190		
Sesame Seed Oil	190	191	284
<i>Sesamum alatum</i>	191		
Sesamum Alatum Seed Oil	191		
<i>Sesamum indicum</i>	190	284	
<i>Sesamum radiatum</i>	191	284	
<i>Sesbania bispinosa</i>	84		
<i>Sesbania pachycarpa</i>	192		
Sesbania Pachycarpa Seed Oil	192		
<i>Sesbania paludosa</i>	192		
Sesbania Paludosa Seed Oil	192		
<i>Sesbania sesban</i>	85		
<i>Setaria italica</i>	91		
Shark Liver Oil (Basking)	261		
Shark Liver Oil (Deep Sea)	261		
Shark Liver Oil	260		
Sheanut Butter	193		

Index Terms**Links**

Sheep Fat (Subcutaneous)	261	
Shepherd's-purse Oil	193	
<i>Shorea robusta</i>	185	
<i>Shorea stenoptera/S. spp.</i>	35	
Shrimp	262	
Shrimp, Alaska	262	
Shrimp, Ecuador White	263	
Shrimp, Louisiana Brown	263	
<i>Sida humilis</i>	193	
Sida Humilis Seed Oil	193	
Simarouba (Paradise) Oil	194	
<i>Simarouba glauca</i>	194	
<i>Simmondsia chinensis</i>	111	
<i>Sinapis alba</i>	139	
<i>Sinapis arvensis</i>	224	
Smelt, American Oil (Fillets, Cayuga Lake, NY)	263	
Smelt, Greater Silver Oil	264	
Snapper, Red Oil (Fillet)	264	
Soap Tree Seed Oil	194	
Soapberry (Chinese) Seed Oil	194	
Soapberry Seed Oil	195	
Soapnut Oil	195	
<i>Solanum melongena</i>	84	196
Solanum Melongena Seed Oil	196	
Sole, Lemmon Oil	265	
<i>Sorghum bicolor</i>	196	
Sorghum Seed Oil (Durra Oil)	196	
Sorghum Seed Oil	196	
<i>Sorghum vulgare</i>	196	
Sour Cherry Kernel Oil	197	
Soybean Lecithin Oil	197	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Soybean Oil (High Palmitic, HP)	198	285
Soybean Oil (High Saturate, Hsat)	199	285
Soybean Oil (High Stearic, HS)	199	286
Soybean Oil (HP/LLn)	199	286
Soybean Oil (Low Linolenic, LLn)	200	286
Soybean Oil (Low Saturate, Lsat)	200	286
Soybean Oil (Lsat/LLn)	201	287
Soybean Oil (Tropical Area)	201	
Soybean Oil	198	285
Spicebush Kernel Fat	201	
Spinach Oil	202	
<i>Spinacia oleracea</i>	202	
Sprat Oil	265	
Spruce Seed Oil	202	
<i>Squalus acanthias</i>	240	
Squid	265	
<i>Staphylea pinnata</i>	32	
Starfruit Seed Oil	202	
<i>Sterculia foetida</i>	110	
<i>Sterculia tomentosa</i>	202	
Sterculia Tomentosa Oil	202	
<i>Sterculia tragacantha</i>	203	
Sterculia Tragacantha Oil	203	
Stillingia Seed Kernel Oil (Chinese Tallow Tree)	203	
<i>Stipa tenacissima</i>	88	
Stone Pine Nut Oil	203	
Strawberry Seed Oil	204	
Sucker, White	266	
Sugar Apple Oil	204	
Sunflower Seed Oil (High Linoleic, HL)	205	287
Sunflower Seed Oil (High Oleic, HO)	205	287

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Sunflower Seed Oil (High Palmitic/High Linoleic, HP/HL)	206	287
Sunflower Seed Oil (High Palmitic/High Oleic, HP/HO)	206	288
Sunflower Seed Oil (High Stearic/High Oleic, HS/HO)	207	288
Sunflower Seed Oil	204	287
Sweet Pea Oil	207	
Sweet Pea Seed Oil	207	
Sweet Rocket Oil (Dame's Violet)	208	
Swordfish	266	
<i>Syagrus coronata/Orbignya cohune</i>	149	
<i>Symphytum officinale</i>	66	

T

<i>Tabebuia argentia</i>	208	
Tabebuia Argentia Oil	208	
Tall Oil (Crude from Pine Wood Pulping)	208	
Tallow (Beef)	267	
Tallow (Mutton)	267	
Tamarind Kernel Oil	209	
<i>Tamarindus indica</i>	209	
Tanacetum Seed Oil	209	
Tara Seed Oil	209	
Taramira Seed Oil (Rocket Salad)	210	
Taramira/Arrugula Seed Oil	210	
<i>Taxus baccata</i>	210	
Taxus Baccata Seed Oil	210	
<i>Taxus chinensis</i>	211	
Taxus Chinensis Seed Oil	211	
<i>Taxus cuspidata</i>	211	

This page has been reformatted by Knovel to provide easier navigation.

Index Terms**Links**

Taxus Cuspidata Seed Oil	211	
<i>Taxus grandis</i>	212	
Taxus Grandis Seed Oil	212	
Teaseed Oil (Sasanqua Oil)	213	
Teaseed Oil (Tsubaki Oil)	213	
Teaseed Oil (Turkish)	213	
Teaseed Oil	212	288
<i>Terminalia bellirica</i>	24	
<i>Terminalia catappa</i>	105	
<i>Thea sinensis</i>	212	288
<i>Theobroma bicolor</i>	125	
<i>Theobroma cocoa</i>	60	278
<i>Theobroma grandiflora</i>	77	
Thumba Oil	214	
<i>Thunnus alalunga</i>	270	
Thyme Oil	214	
<i>Thymus serpyllum/T. vulgaris/T. zygis</i>	214	
<i>Tilia spp.</i>	120	
Tobacco Seed Oil	214	
Tomato Seed Oil	215	
Tonka Bean Oil	215	
<i>Trachurus symmetricus</i>	248	
<i>Trachurus trachurus</i>	247	
<i>Trachysperum ammi</i>	9	
<i>Trapa natans</i>	216	
Trapa Natans Oil	216	
<i>Trichilia emetica</i>	216	
Trichilia Emetica Seed Oil	216	
<i>Trichosanthes kirilowii</i>	217	
Trichosanthes Kirilowii Seed Oil	217	
<i>Trigonella foenum-graecum</i>	90	
<i>Trisopterus esmarki</i>	254	

Index Terms**Links**

<i>Triticum aestivum/T. durum</i>	223
Trout Lipids	268
Trout, Lake	268
Trout, Ocean	269
Trout, Siscowet	269
Tucum (Aoiara) Kernel Oil	217
Tucum Pulp Oil	217
Tuna (White Meat)	270
Tung Oil	218
Turkey Fat	270
Turnip Seed Oil	218
Turtle (Green) Oil	270

U

Ucuhuba Butter Oil	219
<i>Ulmus americana</i>	86
<i>Ulmus spp.</i>	86
<i>Ulva fenestrata</i>	97
<i>Umbellularia californica</i>	40

V

<i>Vaccinium myrtillus</i>	33		
<i>Vaccinium vitis-idea</i>	120		
<i>Valeria indica</i>	81		
Valeriane Oil	219		
<i>Vernicia Montana/Aleurites spp.</i>	218		
<i>Vernonia anthelmintica</i>	219		
<i>Vernonia galamensis</i>	220	288	
Vernonia Seed Oil	219	220	288
<i>Veteria indica</i>	81		

Index Terms**Links**

<i>Vigna mungo</i>	30
<i>Vigna radiata</i>	97
<i>Vigna unguiculata</i>	71
<i>Virola otopa</i>	148
<i>Virola surinamensis</i>	219
<i>Vitis vinifera</i>	96

W

Walnut Oil	220	288
Walnut, Persian/English Oil	221	
Watercress Oil	221	
Watermelon Seed Oil	221	289
<i>Welwitschia mirabilis</i>	222	
Welwitschia Mirabilis Seed Oil	222	
Western Soapberry Seed Fat (Wild Chinaberry)	222	
Whale Oil	271	
Whale Oil, Minke	271	
Whale Oil, Pacific Beaked	271	
Wheat Germ Oil	223	
Whitefish Oil	272	
Whiting	272	
Wild Angelica Seed Oil	223	
Wild Mustard Oil	224	
Winged Bean Oil	224	289
Winter Squash Oil	225	
Woad Oil	225	

X

<i>Ximenia americana</i>	146
--------------------------	-----

Index Terms

Links

Y

Yam Bean

225

Z

Zea mays

68

Zostera marina

189