



**NATIONAL AGENCY FOR FOOD AND DRUG  
ADMINISTRATION AND CONTROL (NAFDAC)**

**FATS AND OILS REGULATIONS 2019**

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### **Commencement:**

In exercise of the powers conferred on the Governing Council of the National Agency for Food and Drug Administration and Control (NAFDAC) by Sections 5 and 30 of the NAFDAC Act Cap N1 LFN 2004 and Section 12 of the Food, Drugs and Related Products (Registration, Etc.) Act Cap F33 LFN 2004 and of all the powers enabling it in that behalf, **THE GOVERNING COUNCIL OF THE NATIONAL AGENCY FOR FOOD AND DRUG ADMINISTRATION AND CONTROL** with the approval of the Honourable Minister of Health hereby makes the following Regulations:-

#### **1. Scope**

These Regulations shall apply to all foods containing fats and oils that are manufactured, imported, exported, advertised, sold, distributed or used in Nigeria.

#### **2. Prohibition**

No person shall manufacture, package, import, export, advertise, distribute, sell or use packaged fats and oils as specified in the First Schedule to these Regulations in Nigeria unless, it has been registered in accordance with the provision of these Regulations.

#### **3. Vitamin A Fortification**

No person shall manufacture, package, import, export, advertise, distribute or sell any vegetable oil as specified in Schedule I to these Regulations, unless, it is fortified with Vitamin A to a level not below 20,000 I.U./kg.

#### **4. Source**

- (1) Edible fats and oil shall be sourced from vegetable and animal origin and may contain amounts of other lipids as phosphatides, unsaponifiable matter and free acids naturally present in the fats and oils.
- (2) Fats of animal origin shall be produced from animal in good health at the time of slaughter and certified fit for human consumption by appropriate authority.
- (3) Vegetable oils shall be derived from the botanical source after which they are named and indicated under the Schedules for individual oils.

## **5. Additives.**

- (1) Edible fats and oils may contain additional permitted colours, provided that the added colours do not deceive or mislead the consumer by concealing damage or low quality or by making the products appear to be greater than their value.
- (2) Edible fats and oils may contain approved natural flavours and their identical synthetic equivalents and other approved synthetic flavours for the purpose of restoring natural flavours, provided that the added flavours do not deceive or mislead the consumer by concealing damage or low quality by making the products appear to be greater than their actual value.
- (3) Edible fats and oils may contain permitted preservatives, antifoaming agent and crystallization inhibitor, the use and limits of which shall be as prescribed in the seventh Schedule to these Regulations, provided that, the fats and oils shall not contain any food additives or food colours when sold as virgin fats and oils.

## **6. Impurities**

- (1) No person shall sell, import, export, produce, market, store or distribute to the public, edible fats and oils that contain impurities such as;
  - (a) Heavy metals;
  - (b) Petroleum products;
  - (c) Foreign particles or any other substance not indicated in the list of additives for this category of food; and
  - (d) Naturally occurring impurities e.g. Gossypol.
- (2) No edible fats and oils shall contain any foreign matter or have rancid odour or taste.

## **7. Labelling of Fats and Oils**

- (1) In addition to compliance with the Pre-Packaged Food (Labelling) Regulations 2019, the following shall apply:-
  - (a) A refined oil obtained from a single botanical source, shall in addition to the brand name and the specific name of the particular oil present, be so indicated on the label; for example "Refined Sunflower Seed Oil";
  - (b) A refined oil obtained from multi botanical sources, where two or more oils are blended together, shall be so indicated on the label provided that the specific names of the oils are listed in the list of ingredients; for example "Refined Sunflower Seed Oil Blend" or "Refined Vegetable Oil Blend"

- (c) No person shall sell a mixture of animal fat and vegetable fat unless the label of that mixture carries the declaration "Contains Animal Fats";
- (d) The label of a container in which margarine is packed shall, bear the word 'MARGARINE' on the principal display panel in a legible & conspicuous manner

## **8. Labeling of Trans Fats**

- (a) The manufacturing and importation of any oils and fats, including emulsions with fat as the continuous phase, either alone or as part of processed foods, which are intended for human consumption or assumed to be intended for human consumption, in the retail trade, catering businesses, restaurants, institutions, bakeries etc, of which the content of Trans-Fat exceeds 2 grams per 100 grams of oil or fat, is prohibited.
- (b) Where a claim that a foodstuff is "Trans-Fat free" is made on the label or in an advertisement, the content of Trans-Fat shall be less than 1 gram per 100 grams of the total fat or oil in the final product.
- (c) For a product that contains 2% fat or more, the nutritional label shall indicate the types and levels of each of the fat components in the product: saturated fatty acids, trans fatty acids and cholesterol.

## **9. Classification, definition and specification of fats and oils**

- (1) Classification, definition and specification of fats and oils, composition and quantity factors of various types of oils and fats and permitted additives are stated in Schedules as follows –
  - (a) classifications, definitions and specifications of Fats and Oils in the First Schedule;
  - (b) composition and quality factors of Arachis Oil in the Second Schedule;
  - (c) composition and quality factors of Cotton Seed Oil in the Third Schedule;
  - (d) composition and quality factors of Maize Oil in the Fourth Schedule;
  - (e) composition and quality factors of Mustard Seed Oil in the Fifth Schedule;
  - (f) composition and quality factors of Olive Oil in the Sixth Schedule;
  - (g) composition and quality factors for Low Erucic Acid Rapeseed Oil in the Seventh Schedule;
  - (h) composition and quality factors for Safflower Seed Oil in the Eight Schedule;
  - (i) composition and quality factors of Sesame Seed Oil in the Ninth Schedule;
  - (j) composition and quality factors of Soya bean Oil in the Tenth Schedule;
  - (k) composition and quality factors of Sunflower Seed Oil in the Eleventh Schedule;
  - (l) composition and quality factors of Palm Oil in the Twelfth Schedule;
  - (m) composition and quality factors of Refined Oil in the Thirteenth Schedule;
  - (n) composition and quality factors of Lard in the Fourteenth Schedule;

- (o) composition and quality factors of Edible Tallow in the Fifteenth Schedule;
- (p) essential composition and quality factors of Margarine in the Sixteenth Schedule; and
- (q) Permitted additives in the Seventeenth Schedule.
- (r) composition and quality factors of Coconut Oil in the Eighteen Schedule;

#### **10. Penalty.**

- (1) Any person who contravenes any of the provisions of these Regulations shall be guilty of an offence and liable on conviction. In case of :
  - (a) an individual, to imprisonment for a term not exceeding one year or to a fine not exceeding N50,000 or to both such imprisonment and fine; and
  - (b) a body corporate, to a fine not exceeding N100, 000.
- (2) Where an offence under these Regulations is committed by a body corporate, firm or other association of individuals every:-
  - (a) director, manager, secretary or other similar officer of the body corporate; or
  - (b) partner or officer of the firm or
  - (c) trustee of the body concerned ;or
  - (d) person concerned in the management of the affairs of the association ;or
  - (e) person who was purporting to act in a capacity referred to in paragraphs (a) to (d) of this regulation, is severally guilty of that offence and liable to be proceeded against and punished for that offence in the same manner as if he had himself committed the offence, unless he proves that the act or omission constituting the offence took place without his knowledge, consent or connivance.

#### **11. Forfeiture after conviction**

- (1) A person convicted of an offence under these Regulations shall forfeit to the Federal Government-
  - (a) any asset or property constituting proceeds derived from or obtained, directly or indirectly, as a result of the offence;
  - (b) any of the person's property or instrumentalities used in any manner to commit or to facilitate the commission of the offence.
- (2) In this section, "**proceeds**" means any property derived or obtained, directly or indirectly, through the commission of the offence.

#### **12. Interpretation.**

In these Regulations unless the context otherwise requires:-

**“Animal fats”** means the fats entirely rendered from fresh, clean, sound fatty tissue of healthy animal at the time of slaughter and fit for human consumption as certified by a competent appropriate authority and they may contain additives the limits of which shall be as prescribed in Seventeenth Schedule to these Regulations;

**“Edible fats and oils”** means foods which are composed of glycerides of fatty acids used for direct consumption, catering purpose or as ingredients in the manufacture of products and they include oils and fats that have been subjected to the process of modification while some crude fat and oil shall be subjected to further processing in order to render them suitable for human consumption;

**“Refined fat or oil”** means product that has been subjected to a process of purification and neutralization and may be, depending on the virgin oils, subjected to a process of de-colourization, deodorization and winterization;

**“Virgin oils”** mean oils obtained, without altering the nature of the oil, by mechanical procedures, e.g. expelling or pressing, and the application of heat only. They may have been purified by washing with water, settling, filtering and centrifuging only

**“Extra virgin oils”** may be used for virgin olive oils provided they are cold pressed, do not contain any refined olive oil and possess superior sensory characteristics and quality based on chemical composition with free acidity, expressed as oleic acid, of not more than 0.8 grams per 100 grams and whose other characteristics correspond to those applicable international standards for this category.

**“Cold pressed oils”** means oils obtained, without altering the oil, by mechanical procedures only, e.g. expelling or pressing, without the application of heat. They may have been purified by washing with water, settling, filtering and centrifuging only.

### **13. Repeal**

- (1) The Fats and Oils Regulations 2005 is hereby repealed.
- (2) The repeal of these Regulations specified in Regulations 12(1) shall not affect anything done or purported to be done under the repealed Regulations

### **14. Citation.**

These Regulations shall be cited as Fats and Oils Regulations 2019.

## SCHEDULES

### FIRST SCHEDULE

#### CLASSIFICATIONS, DEFINITIONS AND SPECIFICATIONS OF FATS AND OILS

**1. Arachis Oil**

Arachis Oil (Peanut Oil) shall be derived from groundnuts (the seed of *Arachis Hypogaea. L*), and shall have the composition and quality factors specified in Second Schedule to these Regulations.

- 2. Coconut oil** shall be derived from the kernel of the coconut (*Cocos nucifera L.*) shall have the composition and quality factors specified in eighteenth schedule to these Regulations.

**3. Cotton Seed Oil**

Cotton Seed Oil shall be derived from the seed of various cultivated species of *Gossypium*, and shall have the composition and quality factors specified in the Third Schedule to these Regulations.

**4. Maize Oil**

Maize oil (corn oil) shall be derived from the germ of maize (the embryo of *Zea mays L.*) and shall have the composition and quality factors specified in the Fourth Schedule to these Regulations.

**5. Mustard Seed Oil**

Mustard seed oil shall be derived from the seed of the white mustard (*Sinapis Alba L* or *Brassica hirta, Moench*, the brown and yellow mustard (*Brassica juncea (L), Czernajew and Cossen*), and of the black mustard (*Brassica nigra (L.) Koch*) and shall have the composition and quality factor specified in the Fifth Schedule to these Regulation

**6. Olive Oil**

Olive oil shall be the oil obtained from the fruit of the olive tree (*Olea europaea L*) and shall have the composition and quality factors specified in the Sixth Schedule to these regulations.

**7. Rapeseed Oil**

Rapeseed oil (turnip rape oil, colza oil, ravision oil, sarson, oil, toria oil), shall be derived from the seeds of *Brassica rapa L*, *Brassica napus L* and *Brassica tournefortii gouan*, and shall have the composition and quality factors specified in the Seventh Schedule to these Regulations.



### **Types of Rapeseed oils**

**Low erucic acid** (low erucic acid turnip rape oil; low erucic acid colza oil; canola oil) shall be derived from low erucic acid oil-bearing seeds of varieties derived from the *Brassica napus* L., *Brassica rapa* L. and *Brassica juncea* L., species. and shall have the composition and quality factors specified in the Seventh Schedule to these Regulations

### **8. Safflower Seed Oil**

Safflower oil (safflower oil, carthamus oil, kurdee oil) shall be derived from safflower seeds (the seeds of *Carthamus tinctorius* L) and shall have the composition and quality factors specified in the Eighth Schedule to these Regulations

**Safflower seed oil - high oleic acid** (high oleic acid safflower oil; high oleic acid carthamus oil; high oleic acid kurdee oil) is produced from high oleic acid oil-bearing seeds of varieties derived from *Carthamus tinctorius* L and shall have the composition and quality factors specified in the Eighth Schedule to these Regulations

### **9. Sesame Seed Oil**

Sesamesed oil, gingelly oil, benne oil, ben oil, tillie oil shall be derived from Sesame seeds (the seeds of *Sesamum Indicum* L), and shall have the composition and quality factors specified in the Ninth Schedule to these Regulations.

### **10. Soya Bean Oil**

Soya bean oil shall be derived from Soya beans (the seeds of *Glycine max* (L) Merr, and shall have the composition and quality factors specified in the Tenth Schedule to these Regulations.

### **11. Sunflower Seed Oil**

Sunflower seed oil shall be derived from sunflower seeds (the seed of *Helianthus annuus* L), and shall have the composition and quality factors specified in the Eleventh Schedule to these Regulations.

### **Types of Sunflower oil**

**Sunflowerseed oil - high oleic acid** (high oleic acid sunflower oil) is produced from high oleic acid oil-bearing seeds of varieties derived from sunflower seeds (seeds of *Helianthus annuus* L.) and shall have the composition and quality factors specified in the Eleventh Schedule to these Regulations

**Sunflowerseed oil - mid oleic acid** (mid-oleic acid sunflower oil) is produced from mid-oleic acid oil-bearing sunflower seeds (seeds of *Helianthus annuus* L.) and shall have the composition and quality factors specified in the Eleventh Schedule to these Regulations

## 12. Palm Oil

Palm oil shall be the liquid derived from the ocelot pulp of the fruit of the oil palm (*Elaeis guineensis*) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

### Types of Palm Oil

**Palm olein** shall be the liquid fraction derived from the fractionation of palm oil (described above) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

**Palm stearin** shall be the high-melting fraction derived from the fractionation of palm oil (described above) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

**Palm superolein** shall be a liquid fraction derived from palm oil (described above) produced through a specially controlled crystallization process to achieve an iodine value of 60 or higher and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

**Palm kernel oil** shall be derived from the kernel of the fruit of the oil palm (*Elaeis guineensis*) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

**Palm kernel olein** shall be the liquid fraction derived from fractionation of palm kernel oil (described above) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations

**Palm kernel stearin** shall be the solid fraction derived from fractionation of palm kernel oil (described above) and shall have the composition and quality factors specified in the Twelveth Schedule to these Regulations)

### **13. Refined Oil or a Mixture of Refined Oils**

Refined oil or a mixture of refined oils, shall have the composition and quality factors set out in the Thirteenth Schedule to these Regulations.

### **14. Lard**

Lard shall be the fat render from fresh, clean, sound, fatty tissues from swine (*Suis Scrofa*). The tissue shall not include bones, detached skin, head skin, ears, tails, organs windpipes, large blood vessels, scrap fat, skimmings, settling, pressings and the like and shall reasonably be free from foreign odours and tastes and, when subjected to processing may, as long as it is so declared on the label, in a descending order of proportion contain refined lard, lard stearine and hydrogenated lard, and shall have the composition and quality factors specified in the Fourteenth Schedule to these Regulations.

### **15. Edible Tallow**

Edible Tallow (dripping) shall be the product obtained by rendering the clean, sound, fatty tissue (including trimming and cutting fats) attendant muscles and bones of bovine animal (*Bos Taurus*) or sheep (*Ovis Aries*). It shall have its characteristics, odour and taste, and be free from foreign odour and taste. It shall have the composition and quality factors specified in the Fifteenth Schedule to these Regulations.

### **16. Shortening**

Shortening, other than butter or lard shall be the food prepared from fats, oils or a combination of fats and oils, may be processed by hydrogenation and may contain a preservative, antifoaming agent, stearyl, monoglyceridyl citrate and other emulsifying agent, which the use and limits of all shall be as prescribed by the agency.

### **17. Margarine**

Margarine shall mean the product of emulsification of edible oils and fats, with water or skimmed milk or other substances with or without the addition of colouring matter capable of being used for the same purpose as butter. It may contain preservatives, emulsifying agents, the use and limit of which shall be prescribed in the approved list of additives. Margarine shall contain not less than 80 percent of fat; not more than 16 per cent of water; not more than 10 per cent of milk fat; not less than 26,000 and not more than 33,000 international units per kilogram of vitamin A; not less than 28,000 and not more than 33,000 international units per

kilogram of vitamin D. It shall have the composition and quality factors specified in the Sixteenth Schedule to these regulations.

## SECOND SCHEDULE

### 1. COMPOSITION AND QUALITY FACTORS OF ARACHIS OIL

Relative Density (20°C/Water at 20°C)	-	0.909 – 0.920
Refractive Index at (40°C)	-	1.460 – 1.465
Saponification Value (mg KOH/g Oil)	-	187 – 196
Iodine Value (Wijs)	-	77 – 107
Unsaponification matter	-	not more than 10g/kg
Arachidic and higher fatty acids	-	not less than 48g/kg
Acid Value:		
• Virgin Oil	-	not more than 4mg KOH/g
• Non-Virgin Oil	-	not more than 0.6mg KOH/g
Peroxide Value	-	not more than 10 millequivqlents Peroxide oxygen 1kg oil
Insoluble Impurities	-	not more than 0.05% (m/m)
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Soap Content	-	not more than 0.05% (m/m)

## THIRD SCHEDULE

### 2. COMPOSITION AND QUALITY FACTORS OF COTTON SEED OIL

Relative Density (20°C/Water at 20°C)	-	0.918 - 0.926
Refractive Index at (40°C)	-	1.458 - 1.466
Saponification Value (mg KOH/g Oil)	-	189 – 198
Iodine Value (Wijs)	-	100 – 123
Unsaponifiable matter	-	not more than 15g/kg
Halphen test	-	Positive
Acid Value	-	not more than 0.6mg KOH/g Oil
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Insoluble impurities	-	not more than 0.05% (m/m)
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Soap Content	-	not more than 0.005 (m/m).

#### FOURTH SCHEDULE

##### 3. COMPOSITION AND QUALITY FACTORS OF MAIZE OIL

Relative Density (20°C/Water at 20°C)	-	0.917 - 0.925
Refractive Index at (40°C)	-	1.465 - 1.468
Saponification Value (mg KOH/g Oil)	-	187 – 195
Iodine Value (Wijs)	-	103 – 135
Unsaponifiable matter	-	not more than 28g/kg
Acid Value:		
• Virgin Oil	-	not more than 4mg KOH/g
• Non-Virgin Oil	-	not more than 0.6mg KOH/g
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kg of oil
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005 (m/m)
Rancidity (Krest Test)	-	Negative
Mineral Oil Test	-	Negative

#### FIFTH SCHEDULE

##### 4. COMPOSITION AND QUALITY FACTORS OF MUSTARD OIL

Relative Density (20°C/Water at 20°C)	-	0.910 - 0.921
Refractive Index at (40°C)	-	1.461 - 1.469
Saponification Value (mg KOH/g Oil)	-	168 – 184
Iodine Value (Wijs)	-	92 – 125
Unsaponifiable matter	-	not more than 15g/kg
Allyl Isocyanate Content	-	not less than 4g/kg
Acid Value:		
• Virgin Oil	-	not more than 4mg KOH/g
• Non-Virgin Oil	-	not more than 0.6mg KOH/g
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen /kg oil
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005 (m/m).

Rancidity Index (Krest Test)	-	Negative
Mineral Oil Test	-	Negative

## SIXTH SCHEDULE

### 5. COMPOSITION AND QUALITY FACTORS OF OLIVE OIL

Relative Density (20°C/Water at 20°C)	-	0.910 - 0.916
Refractive Index at (40°C)	-	1.4677 - 1.4705
Saponification Value (mg KOH/g Oil)	-	181 – 196
Iodine Value (Wijs)	-	75 - 94
Unsaponifiable matter:		
• Virgin Oil	-	not more than 15mg/kg
• Non-Virgin Oil	-	not more than 15mg/kg
Bellier Index	-	not more than 17
Semi-Siccative Oil Test	-	negative
Olive - Pomace Oil Test	-	negative
Cotton Seed Oil Test	-	negative
Teaseed Oil Test	-	negative
Sesame seed Oil Test	-	(Per cent of the sum of beta-silosterol
Sterol Content	-	Camesterol and stihmasterol
Total sterol	-	1000mg/kg
Beta-sitosterol	-	93
Campesterol	-	4.0
Cholesterol	-	0.5
Acid Value:		not more than 20 milligrams equivt.
Virgin Oil	-	KOH/ gram oil 0.6mg KOH/gram
Non-virgin Oil	-	not more than 20 milligrams equivt
Peroxide Value:		peroxide oxygen /kg
Virgin Oil	-	10 milliequivalent peroxide
Refined virgin Oil	-	oxygen/kg
Matter Volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.1% (m/m)
Soap Test	-	negative
Saturated Fatty acids at Positions 2:		<u>Maximum Level</u>
Virgin Olive Oil	-	1.5% (m/m)

Refined Oil	-	1.8% (m/m)
*Saturated Fatty acid at position 2 means the sum of the palmitic (16.0) and stearic (18.0) acids expressed as a percentage (m/m) of the total fatty acids at position 2.		
Free Acidity (expressed as oleic acid):		<u>Maximum Level</u>
Virgin Olive Oil	-	3.3
Refined Olive Oil	-	0.3
Food Additive:		<u>Maximum Level</u>
Virgin Olive Oil	-	not permitted
Refined Olive Oil	-	Tocopherol for the purpose of restoring Natural tocopherol lost in processing (200mg/kg)

### **Contaminants**

#### **Insoluble Impurities:**

Virgin Olive Oil	-	0.1% (m/m)
Refined Olive Oil	-	0.05% (m/m)

## **SEVENTH SCHEDULE**

### **6. COMPOSITION AND QUALITY FACTORS FOR LOW ERUCIC ACID**

#### **RAPESEED OIL**

Relative Density (20°C/Water at 20°C)	-	0.914 - 0.920
Refractive Index at (40°C)	-	1.465 - 1.467
Saponification Value (mg KOH/g Oil)	-	182 – 193
Iodine Value (Wijs)	-	105 – 126
Crisomer Value	-	67 – 70
Unsaponifiable matter	-	not more than 20g/kg
Brassicasterol	-	not less than 5% of total sterol
Erucic Acid	-	not more than 5% (m/m) of the component fatty acids.
Acid Value	-	not more than 0.6mg KOH/g oil
Peroxide value	-	not more than 10 milliequivalents

Peroxide oxygen/kg oil.

Low-erucic acid rapeseed oil must not contain more than 2% erucic acid (as % of total fatty acids).

High oleic acid safflower oil must contain not less than 70% oleic acid (as a % of total fatty acids).

High oleic acid sunflower oil must contain not less than 75% oleic acid (as % of total fatty acids).

## **EIGHTH SCHEDULE**

### **7. COMPOSITION AND QUALITY FACTORS OF SAFFLOWER SEED OIL**

Relative Density (20°C/Water at 20°C)	-	0.922 - 0.927
Refractive Index at (40°C)	-	1.467 - 1.470
Saponification Value (mg KOH/g Oil)	-	186 – 198
Iodine Value (Wijs)	-	136 – 148
Unsaponifiable matter	-	not more than 15g/kg
Acid Value	-	not more than 0.6mg KOH/g Oil
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005 (m/m)
Rancidity (Krest Test)	-	negative
Mineral Oil Test	-	negative

## **NINETH SCHEDULE**

### **8. COMPOSITION AND QUALITY FACTORS OF SESAME SEED OIL**

Relative Density (20°C/Water at 20°C)	-	0.915 - 0.924
Refractive Index at (40°C)	-	0.924 - 1.469
Saponification Value (mg KOH/g Oil)	-	186 – 195
Iodine Value (Wijs)	-	1.465 – 1.469
Unsaponifiable matter	-	not more than 20g/kg
Sesame Oil Test (Baudouin)	-	positive
Acid Value:		
• Virgin Oil	-	not more than 0.6mg KOH/g Oil
• Non-virgin oil	-	not more than 0.6mg KOH/g oil



Peroxide Value:	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005 (m/m)
Rancidity (Krest Test)	-	negative
Mineral Oil Test	-	negative

### TENTH SCHEDULE

#### 9. COMPOSITION AND QUALITY FACTORS OF SOYA BEAN OIL

Relative Density (20°C/Water at 20°C)	-	not less than 0.919 and not more than 0.925
Refractive Index at (40°C)	-	1.466 - 1.470
Saponification Value (mg KOH/g Oil)	-	189 – 195
Iodine Value (Wijs)	-	124 – 139
Unsaponifiable matter	-	not more than 15g/kg
Acid Value	-	not more than 0.6mg KOH/g Oil
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005% (m/m)

### ELEVENTH SCHEDULE

#### 10. COMPOSITION AND QUALITY FACTORS OF SUNFLOWER SEED OIL

Relative Density (20°C/Water at 20°C)	-	0.918 - 0.923
Refractive Index at (40°C)	-	1.461 - 1.468
Saponification Value (mg KOH/g Oil)	-	188 – 194
Iodine Value (Wijs)	-	118 – 141
Unsaponifiable matter	-	not more than 15g/kg
Acid Value:		
• Virgin Oil	-	not more than 0.6mg KOH/g Oil
• Non-virgin oil	-	not more than 0.6mg KOH/g oil
Peroxide Value:	-	not more than 10 milliequivalents

		peroxide oxygen per kilogram
Matter volatile at 105°C	-	not more than 0.2% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.005 (m/m)

## TWELVETH SCHEDULE

### 11. COMPOSITION AND QUALITY FACTORS OF PALM OIL

Relative Density (20°C/Water at 20°C)	-	0.891 – 0.899
Refractive Index at (5z0°C)	-	1.454 – 1.456
Saponification Value (mg KOH/g Oil)	-	190 – 209
Iodine Value (Wijs)	-	50 – 55
Unsaponifiable matter	-	not more than 12g/kg
Acid Value:		
• Virgin Oil	-	not more than 0.6mg KOH/g Oil
• Non-virgin oil	-	not more than 0.6mg KOH/g oil
Peroxide Value:	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Total Carotenoids in Red Palm Oil	-	500mg/kg – 200mg/kg calculated as beta carotene
Contaminants:		Maximum Level
Matter volatile at 105°C	-	0.2% (m/m)
Insoluble impurities	-	0.05% (m/m)
Soap Content	-	0.005% (m/m)
Iron (Fe):		
• Virgin Oil	-	5.0mg/kg
• Non-virgin Oil	-	1.5mg/kg
Lead (Pb)	-	01.mg/kg
Arsenic (As)	-	0.1mg/kg
Palm Kernel olein	-	between 21 to 260 C
Palm Kernel stearin	-	between 31 to 340C
Palm Olein	-	not more than 240 C
Palm stearin	-	not less than 440C
Palm superolein	-	not more than 19.50C

### THIRTEENTH SCHEDULE

#### 12. COMPOSITION AND QUALITY FACTORS OF REFINED OIL

Acid Value	-	not more than 0.6mg KOH/g oil
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram
Matter volatile at 105°C	-	not more than 0.5% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	Nil

### FOURTEENTH SCHEDULE

#### 13. COMPOSITION AND QUALITY FACTORS OF LARD

Relative Density (20°C/Water at 20°C)	-	0.896 - 0.904
Refractive Index at (40°C)	-	1.448 - 1.460
Titre (°C)	-	32 -45
Saponification Value (mg KOH/g Oil)	-	192 -203
Iodine Value (Wijs)	-	55 - 65
Unsaponifiable matter	-	not more than 10g/kg
Acid Value	-	not more than 1.3mg KOH/g fat
Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram fat
Matter volatile at 105°C	-	not more than 0.3% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	Nil

### FIFTEENTH SCHEDULE

#### 14. COMPOSITION AND QUALITY FACTORS OF EDIBLE TALLOW

Relative Density (20°C/Water at 20°C)	-	0.894 - 0.904
Refractive Index at (40°C)	-	1.448 - 1.460
Titre (°C)	-	40 -49
Saponification Value (mg KOH/g Oil)	-	190 -202
Iodine Value (Wijs)	-	40 -53
Unsaponifiable matter	-	not more than 12gm/kg oil
Acid Value	-	not more than 2.5mg KOH/g fat

Peroxide Value	-	not more than 10 milliequivalents peroxide oxygen per kilogram fat
Matter volatile at 105°C	-	not more than 0.3% (m/m)
Insoluble impurities	-	not more than 0.05% (m/m)
Soap Content	-	not more than 0.05% (m/m)

## SIXTEENTH SCHEDULE

### 15. ESSENTIAL COMPOSITION AND QUALITY FACTORS OF MARGARINE

1. Margarine shall be made of edible fats and/or oils or mixtures of these, whether or not they have been subjected to a process of modification.
2. May contain water and/or milk and/or milk products.
3. Minimum fat content                      80%*m/m*                      Essential  
Maximum water content                      16%*m/m*                      Composition

4. **Additions**

The following substances may be added to margarine:

- Vitamin A and its esters
- Vitamin D
- Vitamin E and its esters
- Other vitamins
- Sodium Chloride
- Sugar/any carbohydrate sweetening matter
- Suitable edible proteins

5. **Colours**

**Maximum Level**

Beta – Carotene	25mg/kg
Annatto Extracts	20mg/kg calculated as total Bixin or norbixin
Curcumin or Tumeric	5mg/kg calculated as total Curcumin
Beta-apo-8' Cartotenol	25mg/kg
Methyl and Ethyl Esters of Apo-8' Carotenoic Acid	25mg/kg

6. **Flavours**

Natural flavours, their identical synthetic equivalents, other synthetic flavours approved by the agency for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour can be added as long as the added flavour does not deceive or mislead the consumer by concealing damage or low quality or by making the product appear to be greater than actual value.

7. **Emulsifiers**

**Maximum Level**

Mono and Diglycerides of fatty Acids	Limited by GMP
Esterified with the following acids	10g/kg
Acetic	10g/kg
Acetyltartaric	10g/kg
Citric	10g/kg
Lactic	10g/kg
Tartaric	10g/kg
And their sodium and calcium salts	
Natural and Synthetic Decopherols	
Vitamin E	500mg/kg
Ascorbyl Palmtate	500mg/kg
Ascorbyl Stearate	500mg/kg individually or in combination
Dilauryl Thiodipropionate	200mg/kg

8. **Antio-oxidant Synergists**

Citric Acid	Limited by GMP
Sodium Citrate	Limited by GMP
Isoopropyl Citrate Mixture	100mg/kg individually or in combination
Phosphoric acid	
Phosphoric Acid Monoglycerid Citrate	

9. **Acidity Regulators**

Citric and Lactic Acids and their potassium	Limited by GMP
L. Tartaric acid and its sodium and Sodium/Potassium salts.	Limited by GMP

10. **Anti-foaming Agent**  
 Dimethyl Polysiloxane 10mg/kg  
 (Dimethyl Silicone) singly or in  
 Combination with silicone dioxide
11. **Contaminants**  
 Iron (Fe) 1.5mg/kg  
 Copper (Cu) 0.1mg/kg  
 Lead (Pb) 0.1mg/kg  
 Arsenic (As) 0.1mg/kg

## SEVENTEENTH SCHEDULE

### 16. PERMITTED ADDITIVES

#### (a) COLOURS

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

<u>Colour</u>	-	<u>Maximum Level</u>
Beta-Carotene	-	25mg
Annatto Extracts	-	10mg/kg (calculated as total bixin orbixin)
Curcumin or Tumeric	-	5mg/kg (calculated as total curcumin)
Beta-apo-8' Carotenal	-	25mg/kg
Methyl and Ethyl Ester of Bet a-apo-8' Carotenoic Acid	-	25mg/kg

#### (b) FLAVOURS

Natural flavours, their identical equivalents, and other synthetic flavours approved by the Agency for the purpose of restoring natural flavour lost in processing or for the purpose of standardizing flavour, as long as the added colour does not deceive or mislead the consumer by concealing damage or low quality or by making the product appear to be of greater than actual value.

## **ANTIOXIDANTS**

	<b><u>Maximum Level</u></b>
Propyl Gallate	- 100mg/kg
Butylated hydroxytoluene (BHT)	- 75mg/kg
Butylated hydroxyanisole (BHA)	- 175mg/kg
Any combination of Propyl Gallate BHT, BHA	- 200mg/kg. The limit of each should not exceed maximum level permitted as stated
Natural and Synthetic <u>tocopherol</u>	- 500mg/kg
Ascorbyl Palmiate )	- 500mg/kg individually or
Ascorbyl Sterate )	in combination
Dilauryl Thiodipropionate	- 200mg/kg

## **ANTIOXIDANT**

### **SYNERGISTS**

	<b>Maximum Level</b>
Citric Acid	- Limited by GMP
Sodium Citrate	- "
Isopropyl Citrate Mixture )	- 100mg/kg individually or
Phosphoric Acid Monoglyceride Citrate )	in combination

### **ACIDITY REGULATORS**

	<b>Maximum Level</b>
Citric and Lactic Acid and their potassium and Sodium salts	- GMP
L-Tartaric Acid and its sodium and sodium/Potassium salts.	- GMP

### **ANTI-FOAMING AGENT**

	<b>Maximum Level</b>
Dimethyl Polysiloxane (dimethyl silicone singly or in combination with silicone dioxide	- 10mg/kg

### **CRYSTALLIZATION INHIBITOR**

Oxystearin	- 1.250mg/kg
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### **CONTAMINANTS**

Matter volatile at 105°C	- 0.2% (m/m)
Insoluble Impurities	- 0.05% (m/m)

Soap Content	-	0.005% (m/m)
Iron (Fe)	-	1.5mg/kg (m/m)
Copper (Cu)	-	0.1mg/kg
Lead (Pb)	-	0.1mg/kg
Arsenic (As)	-	0.1mg/kg

### **EIGHTEENTH SCHEDULE**

#### **COMPOSITION AND QUALITY FACTORS OF COCONUT OIL**

Relative Density (20°C/Water at 20°C)	-	0.908 – 0.921
Refractive Index at (40°C)	-	1.448 – 1.450
Saponification Value (mg KOH/g Oil)	-	248 – 265
Iodine Value (Wijs)	-	6.3 – 10.6
Unsaponification matter	-	not more than 15g/kg
Reichert value	-	6 – 8.5
Polenske value	-	13 - 18

**MADE** at Abuja this day.....of.....2019

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**Inuwa Abdulkadir Esq**

**Chairman Governing Council**

**National Agency for Food and Drug Administration and Control (NAFDAC)**