

**CODEX STANDARD FOR EDIBLE FATS AND OILS
NOT COVERED BY INDIVIDUAL STANDARDS**

CODEX STAN 19-1981 (Rev. 2-1999)

The Appendix to this Standard is intended for voluntary application by commercial partners and not for application by governments.

1. SCOPE

This Standard applies to oils and fats and mixtures thereof in a state for human consumption. It includes oils and fats that have been subjected to processes of modification (such as trans-esterification or hydrogenation) or fractionation.

This Standard does not apply to any oil or fat which is covered by one of the following:

- the Codex Standard for Named Animal Fats;
- the Codex Standard for Named Vegetable Oils;
- the Codex Standard for Olive Oils and Olive-pomace Oils.

2. DESCRIPTIONS

2.1 *Edible fats and oils* are foodstuffs defined in Section 1 which are composed of glycerides of fatty acids. They are of vegetable, animal or marine origin. They may contain small amounts of other lipids such as phosphatides, of unsaponifiable constituents and of free fatty acids naturally present in the fat or oil. Fats of animal origin must be produced from animals in good health at the time of slaughter and be fit for human consumption.

2.2 *Virgin fats and oils* are edible vegetable fats and 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 be purified by washing with water, settling, filtering and centrifuging only.

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

3. FOOD ADDITIVES

3.1 No additives are permitted in virgin or cold pressed oils covered by this Standard.

3.2 Colours

No colours are permitted in vegetable oils covered by this Standard.

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

	<u>Maximum level</u>
100 Curcumin or Turmeric	5 mg/kg (calculated as total curcumin)
160a Beta-carotene	25 mg/kg
160b Annatto extracts	10 mg/kg (calculated as total bixin or norbixin)

3.3 Flavours

Natural flavours and their identical synthetic equivalents and other synthetic flavours, except those which are known to represent a toxic hazard.

3.4 Antioxidants

	<u>Maximum level</u>
304 Ascorbyl palmitate) 500 mg/kg individually or in combination
305 Ascorbyl stearate)
306 Mixed tocopherols concentrate	GMP
307 Alpha-tocopherol	GMP
308 Synthetic gamma-tocopherol	GMP
309 Synthetic delta-tocopherol	GMP
310 Propyl gallate	100 mg/kg
319 Tertiary butyl hydroquinone (TBHQ)	120 mg/kg
320 Butylated hydroxyanisole (BHA)	175 mg/kg
321 Butylated hydroxytoluene (BHT)	75 mg/kg
Any combination of gallates, BHA and BHT and/or TBHQ	200 mg/kg but limits above not to be exceeded
389 Dilauryl thiodipionate	200 mg/kg

3.5 Antioxidant synergists

330 Citric acid	GMP
331 Sodium citrates	GMP
384 Isopropyl citrates) 100 mg/kg individually or in combination
Monoglyceride citrate)

3.6 Anti-foaming agents (for oils and fats for deepfrying)

900a Polydimethylsiloxane	10 mg/kg
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4. CONTAMINANTS

4.1 Heavy metals

The products covered by the provisions of this Standard shall comply with maximum limits being established by the Codex Alimentarius Commission but in the meantime the following limits will apply:

Maximum permissible concentration

Lead (Pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

4.2 Pesticide residues

The products covered by the provisions of this Standard shall comply with those maximum residue limits established by the Codex Alimentarius Commission for these commodities.

5. HYGIENE

5.1 It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 3-1997), and other relevant Codex texts such as Codes of Hygienic Practice and Codes of Practice.

5.2 The products should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

6. LABELLING

The product shall be labelled in accordance with the Codex General Standard for the Labelling of Pre-packaged Foods (Ref. CODEX STAN 1-1985, Rev. 1-1991; Codex Alimentarius, Volume 1A).

6.1 Name of the food

6.1.1 The designation "virgin fat" or "virgin oil" may only be used for individual fats or oils conforming to the definition in Section 2.2 of this Standard.

6.1.2 The designation "cold pressed fat" or "cold pressed oil" may only be used for individual fats or oils conforming to the definition in Section 2.3 of this Standard.

6.2 Labelling of non-retail containers

Information on the above labelling requirements shall be given either on the container or in accompanying documents, except that the name of the food, lot identification and the name and address of the manufacturer or packer shall appear on the container.

However, lot identification and the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. METHODS OF ANALYSIS AND SAMPLING

7.1 Determination of lead

According to IUPAC 2.632, AOAC 994.02 or ISO 12193: 1994.

7.2 Determination of arsenic

According to AOAC 952.13, IUPAC 3.136, AOAC 942.17, or AOAC 985.16.

APPENDIX**OTHER QUALITY AND COMPOSITION FACTORS**

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1. QUALITY CHARACTERISTICS**1.1 Colour:**

Characteristic of the designated product.

1.2 Odour and taste:

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

	<u>Maximum level</u>
1.3 Matter volatile at 105°C:	0.2% m/m
1.4 Insoluble impurities:	0.05 % m/m
1.5 Soap content:	0.005 % m/m
1.6 Iron (Fe):	
Refined fats and oils	2.5 mg/kg
Virgin fats and oils	5.0 mg/kg
Cold pressed fats and oils	5.0 mg/kg
1.7 Copper (Cu):	
Refined fats and oils	0.1 mg/kg
Virgin fats and oils	0.4 mg/kg
Cold pressed fats and oils	0.4 mg/kg
1.8 Acid value:	
Refined fats and oils	0.6 mg KOH/g fat or oil
Virgin fats and oils	4.0 mg KOH/g fat or oil
Cold pressed fats and oils	4.0 mg KOH/g fat or oil
1.9 Peroxide value:	
Virgin oils and cold pressed fats and oils	up to 15 milliequivalents of active oxygen/kg oil
Other fats and oils	up to 10 milliequivalents of active oxygen/kg oil

2. METHODS OF ANALYSIS AND SAMPLING

2.1 Determination of acid value (AV)

According to IUPAC 2.201 or ISO 660: 1996.

2.2 Determination of peroxide value (PV)

According to IUPAC 2.501 (as amended), AOCS Cd 8b - 90 (97) or ISO 3961: 1998.

2.3 Determination of matter volatile at 105°C

According to IUPAC 2.601 or ISO 662: 1998.

2.4 Determination of insoluble impurities

According to IUPAC 2.604 or ISO 663: 1999.

2.5 Determination of soap content

According to BS 684 Section 2.5.

2.6 Determination of iron

According to IUPAC 2.631, ISO 8294: 1994 or AOAC 990.05.

2.7 Determination of copper

According to IUPAC 2.631, ISO 8294: 1994 or AOAC 990.05.