

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية  
STANDARDIZATION ORGANIZATION FOR G.C.C (GSO)

**Final draft Standard**

**GSO /2011**

STANDARD FOR EDIBLE FATS AND OILS NOT  
COVERED BY INDIVIDUAL STANDARDS ( E )

إعداد

**Technical committee for food and agricultural products standards.**

(25/4/2011)

هذه الوثيقة مشروع لمواصفة قياسية خليجية تم توزيعها لإبداء الرأي والملاحظات بشأنها، لذلك فإنها عرضة للتغيير والتبديل، ولا يجوز الرجوع إليها كمواصفة قياسية خليجية إلا بعد اعتمادها من مجلس إدارة الهيئة الخليجية.

## تقديم

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية هيئة إقليمية تضم في عضويتها الأجهزة الوطنية للمواصفات والمقاييس في دول الخليج العربية ، ومن مهام الهيئة إعداد المواصفات القياسية الخليجية بواسطة لجان فنية متخصصة .

وقد قامت هيئة التقييس لدول مجلس التعاون لدول الخليج العربية ضمن برنامج عمل اللجنة الفنية رقم " TC5 " اللجنة الفنية الخليجية لقطاع المواصفات الغذائية و الزراعية " بإعداد هذه المواصفة القياسية الخليجية " مواصفات الدهون والزيوت الصالحة للاستهلاك غير المشمولة بمواصفات مستقلة " من قبل (دولة الكويت) ، وقد تم استعراض المواصفات القياسية العربية والاجنبية والدولية والمؤلفات المرجعية ذات الصلة.

وقد اعتمدت هذه المواصفة كمواصفة (لائحة فنية) خليجية في اجتماع مجلس إدارة الهيئة رقم ( ) ، الذي عقد بتاريخ / / هـ ، الموافق / / .

## Foreword

GCC Standardization Organization (GSO) is a regional Organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards / Technical regulations through specialized technical committees (TCs).

GSO through the technical program of committee TC No. 5 " foods and Agriculture sector " has prepared this gulf standard" STANDARD FOR EDIBLE FATS AND OILS NOT COVERED BY INDIVIDUAL STANDARDS "

" The Draft Standard has been prepared by (State of Kuwait).

The draft Standard has been prepared based on relevant ADMO, International and National foreign Standards and references.

This standard has been approved as a Gulf (Standard / Technical Regulation) by GSO Board of Directors in its meeting No.( ), held on / / H , / /

**STANDARD FOR EDIBLE FATS AND OILS NOT  
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## **1- Scope**

This Gulf 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 Standards :

- 1.1** GSO 18601 " Processed Edible Animal Tallow "
- 1.2** GSO 1929 , GSO 1754 " Named vegetable oils part 1 and part 2 "
- 1.3** GSO 1019 " olive oils and Olive-Pomace Oils "

## **2- COMPLEMENTARY Referances**

- 2.1** GSO 9 " Labeling of prepackaged foods "
- 2.2** GSO 15 " Methods of sampling for edible oils and fats "
- 2.3** GSO 19 " permitted food additives in edible oils and fats "
- 2.4** GSO 20 " Methods for the determination of contaminating metallic elements in foodstuffs "
- 2.5** GSO " General Standard for food Aditives in food stuffs " to be approved by the organization.
- 2.6** GSO 993 " Animal Slaughtering requirements according to the Islamic law "
- 2.7** GSO 382 GSO 383 " Maximum limits for pesticide residues in agricultural food products – part 1 and part 2.
- 2.8** GSO " General standard for Contaminants in food and feed "
- 2.9** GSO 1016 " Microbiological limits in food and food stuff "
- 2.10** GSO 988 " Limits of radioactivity levels permitted in foodstuff – part 1 "
- 2.11** GSO 21 " Hygic regulation for food plants and their personal "
- 2.12** GSO 1694 " Greneral Principles of food Hygiene.

### 3. DEFINITIONS

- 3.1 Edible fats and oils :** are foodstuffs 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 animal in good health at the time of slaughter and be fit for human consumption and slaughtered according to the GSO Standard which is mentioned in item 2.6.
- 3.2 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.
- 3.3 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.

### 4- GENERAL REQUIREMENTS

The following requirements shall be met :

- 4.1** The product shall retain all its natural characteristic properties.
- 4.2** The product shall be free from rancidity and any objectionable smells .
- 4.3** The product shall be free from pork fats or oils.
- 4.4** The product shall be product in plants satisfying all hygienic conditions stated in the GSO standard mentioned in item (2.11) .

### 5- QUALITY REQUIREMENTS

- 5.1** Percentage of volatile matter at 105 °C for 3 hrs shall not exceed 0.2 % m/m.

**5.2 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

**5.3 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

**5.4** Insoluble impurities shall not exceed 0.05 %.

**5.5** Soap contents shall not exceed 0.005 %.

**6- FOOD ADDITIVES**

Without prejudice to what stated in Gulf standards mentioned in item 2.3 and item 2.5 , The following shall be applied.

**6.1** No additives are permitted in the oils mentioned in clause 3.3

**6.2 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 greater than actual value , the following colours can be added .

INS No.	Additive	Maximum Use Level
100 (i)	Curcumin	5 mg/kg
160a (ii)	beta-Carotenes (vegetable)	25 mg/kg
160a (i)	beta-Carotenes (synthetic)	15 mg/kg (Singly or in combination)
160a (iii)	beta-Carotenes (Blakeslea trispora)	
160e	Beta-apo-8' - Carotenal	
160f	Beta-apo-8' - Carotenoic acid , methyl or ethyl ester	
160 b (i)	Annatto extracts , bixin-based	10 mg/kg (as bixin)

### 6.3 Flavours

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

### 6.4 Antioxidants

INS No.	Additive	Maximum Use Level
304	Ascorbyl palmitate	500 mg/kg (Singly or in combination)
305	Ascorbyl Stearate	
307 a	Tocopherol , d-alpha	300 mg/kg (Singly or in combination)
307 b	Tocopherol , concentrate , mixed	
307 c	Tocopherol , dl- alpha	
310	Propyl gallate	100 mg/kg
319	Tertiary butyl hydroquinone (TBHQ)	120 mg/kg
320	Butylated hydroxyanisole (BHA)	175 mg/kg
321	Butylated hydroxyanisole (BHT)	75 mg/kg
Any combination of gallates , BHA , BHT , and/or TBHQ		200 mg/kg but limits above not to be exceeded
389	Dilaury thiodipropionate	200 mg/kg

### 6.5 Antioxidant Synergists

INS No.	Additive	Maximum Use Level
330	Citric acid	GMP
331 (i)	Sodium dihydrogen citrate	GMP
331 (iii)	Trisodium citrate	GMP
384	Isopropyl citrates	100 mg/kg (Singly or in combination)
472 c	Citric and fatty acid esters of glycerol	

**6.6 Anti-foaming agents (for oils and fats for deepfrying)**

INS No.	Additive	Maximum Use Level
900 a	Polydimethylsiloxane	10 mg/kg

**7- CONTAMINANTS****7.1 Heavy metals**

The products covered by the provisions of this standard shall comply with maximum limits being established by the GSO standard mentioned in item 2.8 but in the meantime the following limits will apply :

Heavy Metals	Maximum permissible concentration
Lead (pb)	0.1 mg/kg
Arsenic (As)	0.1 mg/kg

**7.2 Pesticide residues**

Pesticide residues content shall not exceed what is stated in the Gulf standards mentioned in item 2.7.

**7.3** The limits of radioactivity levels shall not exceed what is stated in Gulf standard mentioned in item 2.10

**8- HYGIENE**

**8.1** It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the GSO standard mentioned in item 2.12 and other relevant hygienic practice standard.

**8.2** Microbiological limits comply with criteris stated in the Gulf standards mentioned in (2.9).

## 9- LABELLING

Without prejudice to what as stated in the Gulf standards mentioned in (2.1) the following shall be declared on each package.

### 9.1 Name of food.

9.1.1 The designation " virgin fat " or " virgin oil " may only be used for individual fats or oils conforming to the definition in Section 3.2 of this standard.

9.1.2 The designation " cold pressed fat " or " cold pressed oil " may only be used for individual fats or oils conforming to the definition in Section 3.3 of this standard.

### 9.2 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.

## 10- SAMPLING

Sampling shall be according to GSO standard on item 2.2 .

## 11- METHODS OF ANALYSIS

Without violation of the GSO standard in item 2.4 , the following may be added.

### 11.1 Determination of lead

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

### 11.2 Determination of arsenic

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