

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

**Final Draft**

**GSO 05/ FDS/1406:2014(E)**

**شرائح الأسماك المجمدة**  
**FROZEN FISH FILLETS**

إعداد

اللجنة الفنية الخليجية لقطاع المواصفات الغذائية والزراعية

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.

**ICS: 67.120.30**

## 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 ( 5 ) " اللجنة الفنية الخليجية لمواصفات قطاع المنتجات الغذائية والزراعية " بتحديث المواصفة القياسية الخليجية رقم GSO 1406 " شرائح الاسماك المجمدة " وقامت الامارات العربية المتحدة بإعداد مشروع هذه المواصفة .

وقد اعتمدت هذه المواصفة كلائحة فنية خليجية في اجتماع مجلس إدارة الهيئة رقم ( ) الذي عُقد بتاريخ / / هـ ، الموافق / / م .

على أن تلغي المواصفة رقم GSO 1406:2005 " شرائح الاسماك المجمدة " وتحل محلها .

## Foreword

Standardization Organization for GCC (GSO) is a regional Organization which consists of the National Standard Bodies of GCC member States.

One of GSO main functions is to issue Gulf Standard/ Technical regulation through specialized technical committees (TCs).

GSO through the technical program of committee TC No: (5) "Technical Gulf committee for food and agriculture product standards" has updated the GSO standard No. GSO 1406" Frozen Fish Fillets " The draft standard has been prepared by (United Arab Emirates).

This standard has been approved as Gulf Technical regulation by GSO Board of Directors in its meeting No..../....held on / / H, / / .

The approved standard will replace and supersede the standard No. GSO 1406:2005 Frozen Fish Fillets.

## Frozen Fish Fillets

### 1. Scope

This Gulf Standard applies to quick frozen fish fillets offered for direct consumption without further processing. It does not apply to products indicated as intended for further processing or for other industrial purposes.

### 2. Complementary Standards

- 2.1 GSO 9: Labeling of prepackaged foodstuffs.
- 2.2 GSO 20: Methods for the Determination of Contaminating Metallic Elements in Foodstuffs.
- 2.3 GSO 21: Hygienic Regulations for Food Plants and their Personnel.
- 2.4 GSO 149: Un-bottled drinking water.
- 2.5 GSO 150: Expiration dates for food products - Part 2: Voluntary expiration dates.
- 2.6 GSO/CAC 193: General Standard for Contaminants and Toxins in Food and Feed.
- 2.7 GSO 323: General Requirements for Transportation and Storage of Chilled and Frozen Foods.
- 2.8 GSO 380: Chilled Fish.
- 2.9 GSO 382, 383: Maximum allowable limits of pesticides residue in agricultural and food products – 1<sup>st</sup> and 2<sup>nd</sup> parts.
- 2.10 GSO 384: Ice for human consumption.
- 2.11 GSO 589: Method of physical and chemical test of fish, shell fish and their products
- 2.12 GSO 655: Method of microbiological examination for meat, fish, and shell fish
- 2.13 GSO 839: Food Packages - Part 1: General Requirements
- 2.14 GSO 988: Limits of Radiation Levels Permitted in Foodstuffs- Part 1.
- 2.15 GSO 998 Method for detecting limits of Radiation Levels Permitted in agriculture and food products - Part 1: “Gamma Spectrometry Analysis - Caesium-134, Caesium-137”.
- 2.16 GSO 1016: Microbiological Criteria of Food Product- Part 1.
- 2.17 GSO 1026: Code of Hygienic Practice for Preparation, Transportation, Handling and Storing of Fish.
- 2.18 GSO 1694: General principles of food hygiene.
- 2.19 GSO 1881: Methods of sampling fish, shell fish, and their products.
- 2.20 GSO 1861: Fish Products - Determination of Histamine - Reference Method.
- 2.21 Gulf standard which the GSO will approve concerning:
  - 2.21.1 The determination of pesticide residues in agricultural and food products.
  - 2.21.2 Method mentioned in the Association of Official Analytical Chemists AOAC’ book – “Fish section” 983.18” and 950.46.

### 3. Definition

#### 3.1 fish fillets

Slices of fish of irregular size and shape which are removed from the carcass of the same species of fish suitable for human consumption by cuts made parallel to the backbone and sections of such fillets cut so as to facilitate packing and processing.

### 3.2 Quick freezing process

The product after any suitable preparation shall be subjected to a sudden and fast freezing process. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperature has reached  $-18^{\circ}\text{C}$  or colder.

The recognized practice of repacking quick frozen products under controlled conditions which will maintain the quality of the product, followed by the reapplication of the quick freezing process as defined, is permitted.

### 3.3 The application of a protective coating of ice (Glazing)

Applying a protective coating of ice (ice glaze) to the frozen product by dipping or spraying it with water or by using the surface ice glaze solution.

### 3.4 Dehydration (Freezer burns)

When the sample unit exhibits excessive loss of moisture clearly shown as white or yellow discoloration on the surface, which masks the color of the flesh and reaches beyond the surface, so as it cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the product.

### 3.5 Foreign matter

The presence in the sample unit of any matter, which has not been derived from fish, does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification that indicates non-compliance with good manufacturing and sanitation practices.

## 4. Requirements

The following requirements should be met by frozen fish fillets:

4.1 Frozen fish fillets shall be prepared from sound fish which are of a quality fit to be sold fresh for human consumption. The fish fillets must comply with the GSO Standard mentioned in (2.8).

4.2 Frozen fish fillets shall be produced in compliance to the conditions indicated in the GSO Standard mentioned in (2.18 / 2.3).

4.3 The ice used in the chilling process shall comply with the GSO Standard mentioned in (2.10).

4.4 If glazed, the water used for glazing or preparing glazing solutions shall be in compliance with the GSO Standard mentioned in 2.4. If sea water was used, it must be clean and should meet the same microbiological standards as potable water and is free from objectionable substances.

4.5 The product shall be prepackaged to prevent dehydration and limit rancidity. It shall remain frozen at a temperature of  $-18^{\circ}\text{C}$  or colder in order to maintain its quality during transportation, storage, and distribution.

4.6 The products shall not contain more than 20 mg/100 g of histamine in average in the sample unit tested. Concerning the following species:

*Clupeidae*, *Scombridae*, *Scombresocidae*, and *Pomatomidae* *Coryphaenidae* families, the products shall not contain more than 10 mg/100 g of histamine based on the average of the sample unit tested.

4.7 A sample unit shall be considered as defective when it exhibits any of the properties defined below:

#### 4.7.1 Dehydration (Freezer burns)

When greater than 10% of the surface area of the sample unit or for pack sizes is affected as described below:

	Pack Size	Defect Area
1	≤ 200 g units	≥ 25 cm <sup>2</sup>
2	201 - 500 g units	≥ 50 cm <sup>2</sup>
3	501 - 5000 g units	≥ 150 cm <sup>2</sup>

#### 4.7.2 Foreign Matter

The presence of any foreign matter in the sample unit may affect human health.

#### 4.7.3 Parasites

The presence of two or more parasites per kg of the sample unit with a capsular diameter greater than 3 mm or a parasite not encapsulated and greater than 10 mm in length.

4.7.4 The presence of more than one of the following bones per kg of the sample unit (in packs designated boneless):

4.7.4.1 The presence of a bone greater or equal to 10 mm in length, or greater or equal to 1 mm in diameter

4.7.4.2 The presence of a bone less than or equal to 5 mm in length, is not considered a defect if its diameter is not more than 2 mm.

4.7.4.3 The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm, or if it can easily be stripped off with a fingernail.

4.7.5 A sample unit affected by persistent and distinct objectionable odors or flavors characteristic of decomposition, rancidity or feed.

4.7.6 A sample unit affected by excessive gelatinous condition of the flesh together with greater than 86% moisture found in any individual fillet or a sample unit with pasty texture resulting from parasitic infestation affecting more than 5% of the sample unit by weight.

4.8 The level of the contaminating heavy metallic elements in the frozen product should not exceed the ratio mentioned below (ppm):

Heavy metallic elements	Maximum level allowed
Cadmium	0.05
Mercury	0.5
Lead	0.3
Inorganic arsenic	1.0

#### 4.9 Food additives

The following food additives are allowed if they don't exceed the maximum level as mentioned below:

Moisture/Water Retention Agents	Maximum level in the final product
339(i) Monosodiumorthophosphate 340(i) Monopotassiumorthophosphate 450(iii)Tetrasodiumdiphosphate	10g/kg expressed as P <sub>2</sub> O <sub>5</sub> , singly or in combination. (includes natural phosphate)

450(v) Tetrapotassiumdiphosphate	
451(i) Pentasodiumtriphosphate	
451(ii) Pentapotassiumtriphosphate	
452(i) Sodiumpolyphosphate	
452(iv)Calcium, polyphosphates	
401 Sodiumalginate	GMP
Antioxidants	
301 Sodiumascorbate	GMP
303 Potassiumascorbate	GMP

4.10 Microbiological content of the products shall not exceed the limits according to the GSO standard mentioned in (2.16).

4.11 The pesticides residue of the products shall not exceed the limits according to the GSO standard mentioned in (2.9).

4.12 The radiation levels of the products shall not exceed the limits according to the GSO standard mentioned in (2.14).

4.13 The Contaminants and Toxins content of the products shall not exceed the limits according to the GSO standard mentioned in (2.6).

## 5. Packaging

The used packages shall comply with the GSO standard mentioned in (2.13).

## 6. Transportation and Storage

6.1 Transportation and storage processes should take place in accordance with the GSO standards mentioned in (2.7) and (2.17).

6.2 Frozen fish fillets shall be stored at a temperature of -18° C or colder.

## 7. Labeling

Without prejudice to the provisions of the Gulf standards referenced in item 2.1, the following specific provisions apply:

7.1 Name and type of fish used in reference to its preparation method and presentation should be included on the label.

7.2 The label shall include the terms "quick frozen" or "frozen" in addition to terms that indicate that the product shall be stored at a temperature of -18° C or colder.

7.3 Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

7.4 The label shall include the phrase (Do not refreeze after thawing).

7.8 The label shall specify if the glazing process was made using sea water.

7.9 The label shall include the expiration date, according to the GSO standard in (2.5).

7.10 The label shall include any preparation method like skin or bone removal. When the packs are designated boneless, all bones should be removed including the small pin-bones.

## **8. Sampling**

The samples shall be taken in accordance with the GSO standard mentioned in (2.19).

## **9. Examination methods**

9.1 The samples' chemical and physical examination methods shall be in accordance with the Gulf Standard in item 2.11.

9.2 The samples' microbiologic examination methods shall be in accordance with the Gulf Standard in item 2.12.

9.3 The detection of Contaminating Metallic Elements in the samples shall be in accordance with the Gulf Standard in item 2.2.

9.4 The detection of pesticides residue shall be in accordance with the Gulf Standard in item 2.21.

9.5 The detection of limits of Radiation Levels in the should be in accordance with the Gulf Standard in item 2.15.

9.6 The detection of histamine in the sample shall be in accordance with the Gulf Standard in item 2.20.

9.7 The determination of the sample's gelatinous condition shall be in accordance with the method mentioned in the Association of Official Analytical Chemists AOAC' book – “Fish section” 983.18” and 950.46.

### References:

- Codex Alimentarius Commission, *QUICK FROZEN FISH FILLETS*, CAC 190-1995.