

# هيئة التقييس لدول مجلس التعاون دول الخليج العربية GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع مواصفة نهائي  
Final Draft of Standard FDS

إعداد اللجنة الفنية الخليجية رقم TC05

Prepared by GSO Technical Committee No. TC05

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السردين المعلب  
Canned Sardines

ICS: 67.120.30

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هذه الوثيقة مشروع لمواصفة قياسية/لائحة فنية خليجية تم توزيعها لإبداء الملحوظات بشأنها، لذلك فإنها عرضة للتغيير والتبديل، ولا يجوز الرجوع إليها كمواصفة قياسية/لائحة فنية خليجية إلا بعد اعتمادها من الهيئة.

## 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 بواسطة لجان فنية متخصصة.

قرر مجلس إدارة هيئة التقييس لدول مجلس التعاون لدول الخليج العربية في اجتماعه رقم ( ) الذي عقد بتاريخ // هـ ، الموافق // م اعتماد تحديث اللائحة الفنية الخليجية رقم (GSO 1750 : 2013) " السردين المعب " باللغة ( العربية / الإنجليزية) التي تم دراستها ضمن برنامج عمل "اللجنة الفنية الخليجية للمواصفات الغذائية والزراعية رقم TC05" المدرجة في خطة دولة الكويت. على ان تلغى اللائحة الفنية رقم (GSO CAC 1750/2013) وتحل محلها.

**Canned Sardine****1. SCOPE**

This standard applies to canned sardines and sardine-type products, it does not apply to specialty products where fish content constitutes less than 50% m/m of the net contents of the can.

**2. COMPLEMENTARY STANDARDS**

2.1 GSO 9: "Labeling of prepackaged foodstuffs".

2.2 GSO 21: "Hygienic regulations for food plants and their personnel".

2.3 GSO 382: "Maximum allowable limits of pesticides residue in agricultural and food products".

2.4 GSO 589: "Methods of physical and chemical analysis of fish, shell fish and their products".

2.5 GSO 655: "Methods of microbiological examination of meat, fish, shell-fish and their products".

2.6 GSO 1000: "Methods of sampling for prepackaged food products".

2.7 GSO 1016: "Microbiological Criteria for Foodstuffs".

2.8 GSO 1694: "General principles of food hygiene".

2.9 GSO 1861: "Fish Products Determination of Histamine (Reference Method)".

2.10 GSO 1791: "Three-piece steel round cans used for canning food stuffs".

2.11 GSO 1792: "Methods of test for three-piece steel round cans used for canning food stuffs".

- 2.12 GSO CAC / GL 31: 2021 "Guidelines for sensory evaluation of fish and lesions".
- 2.13 GSO 2333: "Requirements for nutrition and health claim in the food".
- 2.14 GSO 2055-1: "HALAL FOOD - Part 1: General Requirements".
- 2.15 GSO 2233: "Requirements of nutritional labeling".
- 2.16 GSO 2276: "Detection of lard in food".
- 2.17: GSO 2612: "Guidelines for salt target in food".

### 3. DEFINITIONS:

#### 3.1 Canned sardines:

A food product prepared from the following sardine species of fresh, frozen or smoked sardine fish which packed in water, oil or other suitable packing medium, in hermetically sealed containers and heat processed after packing to ensure its commercial sterility to prevent its spoilage:

- *Sardina pilchardus*
- *Sardinops melanostictus*, *S. neopilchardus*, *S. ocellatus*, *S. sagax*, *S. caeruleus*,
- *Sardinella aurita*, *S. brasiliensis*, *S. maderensis*, *S. longiceps*, *S. gibbosa*
- *Clupea harengus*
- *Clupea bentincki*

- *Sprattus sprattus*
- *Hyperlophus vittatus*
- *Nematalosa vlaminghi*
- *Etrumeus teres*
- *Ethmidium maculatum*
- *Engraulis anchoita*, *E. mordax*, *E. ringens*
- *Opisthonema oglinum*

### 3.2 Foreign materials:

Any materials other than fish or packing medium that poses a threat to consumer health, its presence indicate that no good hygienic regulations during processing has been follow.

## **4. REQUIREMENTS:**

The following requirements shall be met in the canned sardines:

### 4.1 Physical requirements:

- 4.1.1 The product shall be completely free from pig products and its derivatives.
- 4.1.2 The product shall be prepared from sound, clean fresh, frozen or smoked sardine's fish and fit for human consumption.
- 4.1.3 The product shall be prepared from sardines, with head and gills removed, scales and / or tail may be removed If eviscerated, the product shall be free from undigested feed and from visceral parts other than roe, milt, or kidney.
- 4.1.4 The container shall not be containing less than two fish.
- 4.1.5 The product shall meet the distinctive natural sensory qualities of the

product in terms of shape, color, flavor, and homogeneous texture and is free of weaving, smell and exotic taste.

- 4.1.6 The product shall be free of exotic substances, impurities, apparent mold, living and dead insects of all kinds and all its phases and parts.
- 4.1.7 The product shall be produced according to regulations mention in GSO standard item (2.2) and (2.8).
- 4.2 Chemical requirements:
  - 4.2.1 The packing medium and other materials used in packing shall be food grade and comply with GSO Standard specific to each.
  - 4.2.2 Histamine content in the product shall not exceed 10 mg / 100 g, based on the average of the sample unit tested, no sample unit shall contain histamine that exceeds 20 mg/ 100 g.
  - 4.2.3 Any one of the following substances may be added to the packing medium according to GMP

## 4.2.3.1

	Thickening or Gelling Agents	No . index
1	Alginic acid	400
2	Sodium alginate	401
3	Potassium alginate	402
4	Calcium alginate	404
5	Agar	406
6	Carrageenan and its Na ,K,and NH4 salts (including furcelleran)	407
7	processed Euchema Seaweed (PES)	407a
8	Carob gum	410
9	Guar gum	412
10	Tragacanth gum	413
11	Xanthan gum	415
12	Pectins	440
13	sodium carboxymethylecellulose	466

## 4.2.3.2

	Modified starches :	No. index
1	Acid treated starches	1401
2	Alkaline treated starches	1402
3	Oxidized starches	1404
4	Monostarch phosphate	1410
5	Distarch phosphate esterified with sodium trimetaphosphate; esterified with phosphorus oxychloride	1412
6	Phosphated distarch phosphate	1413

7	Acetylated distarch phosphate	1414
8	Starch acetate	1420
9	Acetylated distarch adipate	1422
10	Hydroxypropyl starch	1440
11	Hydroxypropyl starch phosphate	1442

## 4.2.3.3

	Acidity regulators	No. index
1	Acetic acid .	260
2	b- Lactic acid (L-,D-,and DL-).	270
3	c- Citric acid	330

## 4.2.3.4 Natural flavours:

1- Spice oils.

2- Spice extracts.

3- Smoke flavors (Natural smoke solutions and extracts).

4.2.4 Contaminant metallic elements content shall not exceed to what has been mentioned against each (p.p.m):

	metallic elements	p.p.m
1	Lead	0.4
2	Mercury	1.0
3	Cadmium	0.3
4	Arsenic	1.0



- 4.2.5 Pesticides residue content shall not exceed to what has been mentioned in GSO standards stated in item (2.3).
- 4.3 Biological requirements:
  - 4.3.1 The products shall be free from any foreign material that poses to consumer health and free from, impurities, the indications of spoilage and off flavors.
  - 4.3.2 The product shall be free from microorganisms capable of development under conditions of storage.
  - 4.3.3 The product shall be free from any substances derived from microorganisms in amounts which may represent a hazard to health.
  - 4.3.4 Shall be free from container integrity defects which may compromise the hermetic seal.
  - 4.3.5 Microbiology requirements shall be complying to what has been mentioned in GSO standard stated in item (2.7).

## **5. PACKING, TRANSPORTATION AND STORAGE:**

- 5.1 Packing:
  - 5.1.1 Sardines shall be packed in hermetically sealed containers and when packed with tin – plate it should meet the requirements stated in GSO Standard mentioned in item (2.10).
  - 5.1.2 The internal surface of the container shall be enameled with suitable food grade enamel and free from corrosion.
  - 5.1.3 The cans shall be free from mechanical defects, leakage, and rust.
- 5.2 Transportation:

The containers shall be transported in a way to keep it from mechanical damage or contamination.

**5.3 Storage:**

The containers shall be store in well ventilated stores far away from heat and contamination sources.

**6. Methods of examination and test:****6.1 Sampling:**

Samples shall be taken according to GSO standard stated in item (2.6).

**6.2 Methods of test:**

6.2.1 Physical and chemical tests shall be carried out according to GSO standard stated in item (2.4).

6.2.2 Microbiological tests shall be carried out according to GSO Standard stated in item (2.5).

6.2.3 Determination of histamine shall be carried out according to GSO Standard stated in item (2.9).

6.2.4 Test of three pieces steel round cans shall be carried out according to GSO Standard stated in item (2.11).

**6.3 Sensory and physical examinations**

Sensory and physical examinations are carried out according to the Gulf standard mentioned in item No. (2.12).

**6.4 Determination of net weight**

The net content of all sample units shall be determined by the following procedures:

1-The weight of the unopened container.

2- Open the container and remove the content.

3- Weigh the empty container, including its end, after removing the extra liquid and sticking flesh.

4- Subtract the weight of the empty container and all packing Material from the weight of the closed containers. The number obtained is the net content.

### **6.5 Determination of Drained weight**

The drained weight of all sample units is determined by the following procedure:

- 1- Keep the container at a temperature between 20°C and 30°C for at least 12 hours before examining it.
- 2- Opening and tilting the container to dispense the contents onto a circular sieve that has been previously weighed and contains a wire mesh containing square holes of size 2.8 mm x 2.8 mm.
- 3- Tilt the sieve at an angle of about 17-20 degrees and leave the fish to filter for two minutes, starting from the time it was poured.  
The product is over the sieve.
- 4- The weight of the sieve that contains the drained fish.
- 5- Determining the weight of the drained fish by subtracting the weight of the sieves from the weight of the sieves with the filtered product.

### **6.6 Procedures for Packs in sauces (washed drained weight)**

- 1- Keep the container at a temperature between 20°C and 30°C for at least 12 hours before examining it.
- 2- Opening the container, tilting it and washing the sauce that covers it

and then the entire content using hot tap water approximately 40 degrees Celsius, using a plastic washer bottle for example, over a circular sieve.

- 3- Wash the contents of the sieve using hot tap water until it is free of stick sauce, when possible separate the optional ingredients Seasoning vegetables and fruits using tongs tilting the sieve at an angle of approximately 17-20°C and leave the fish to filter for two minutes starting from the time the product is poured over the sieve.
- 4- Remove the sticky water from the bottom of the sieve using a paper towel. Weight of the sieve that contains the fish filtered.
- 5- Determining the weight of the drained fish by subtracting the mass of the sieves from the weight of the mass of the sieves with the filtered product.

## **7. LABELLING:**

Without prejudice to what has been mentioned in GSO standard stated in item (2.1), the following shall be declared on the can label:

- 7.1 Product name (Sardine) attached with the kind of sardine or the name of country.or geographic area which produced in it.
- 7.2 The type of used packing medium as a part of the name of the product.
- 7.3 The word (smoked) or smoke flavored, according to the case.
- 7.4 The label shall not include other descriptive terms that will avoid misleading or confusing the consumer.
- 7.5 The production and expiration (month-year).

**8. Determination of defectives**

A unit should be considered defective when it exhibits any of the characteristics listed below.

**8.1 Foreign matter**

The presence of any substance in the sample unit that is not derived from fish or from the packing medium, does not pose a danger to human health, if it is easily identified without the need to enlarge it or which is present at a level determined by resorting to any method, including magnification, which indicates non-conformity with Good Manufacturing and Hygiene Practices.

**8.2 Odor/flavor**

The sample unit is affected by persistent, distinct and unacceptable odors or flavors indicative of decomposition or rancidity.

**8.3 Textures**

- 1- Meat that is too tender and uncharacteristic of the types presented.
- 2- Too hard or fibrous meat, uncharacteristic of the species presented.

**8.4 Discoloration**

It is the sample unit affected by characteristic changes in color indicating decomposition or rancidity or affected by sulfide staining by more than 5% of the thickness depending on the weight of the sample unit.

**8.5 Objectionable Matter**

It is the sample unit affected by struvite crystals - struvite crystals over 5 mm in length.

### المصطلحات الفنية

Pathogenic micro-organism .....	احياء دقيقة ممرضة
Gills .....	خياشيم
Scales.....	قشور
Visceral part .....	أجزاء الأحشاء
Roe.....	البطارخ (بيض السمك)
Histamine.....	هستامين
Tail.....	الذيل
Pesticides .....	مبيدات
Commercial sterility .....	التعقيم التجاري
Smoked .....	مدخن
Mercury .....	الزئبق

Arsenic.....الزرنيخ

Packing medium .....وسط التعبئة