

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

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التونة المعلبة
Canned tuna

Prepared by :
Gulf technical committee for standards of food and agriculture products

This document is a draft Gulf standard circulated for comments, it is therefore, subject to change, and may not be referred to it as a Gulf standard, until approved by the board of directors.

ICS: 67.080

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 " Gulf technical committee for standards of food and agriculture products " has update the GSO Standard No.(1817 / 2007) " Canned tuna " The Draft Standard has been prepared by (State of Qatar).

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 GSO standard No. (GSO5 / 1817/2007).

Canned tuna

1- Scope and field of application:

This Gulf standard is concerned with canned tuna. It isn't concerned with products where tuna flesh content constitutes less than 50% (m/m).

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 (150) "Expiration dates for food products".
- 2.4 GSO (168) "Requirements for storage facilities for dry and canned foodstuffs".
- 2.5 GSO (382, 383) "Maximum allowable limits of pesticide residues in agricultural and food products - Parts 1 & 2".
- 2.6 GSO (589) "Methods of physical and chemical analysis of fish, shellfish and their products".
- 2.7 GSO 655 "Methods of microbiological examination for meat, fish and shellfish".
- 2.8 GSO 839 "Food packages – Part1: General requirements".
- 2.9 GSO 988 "Limits of radioactivity levels permitted in foodstuffs - Part1".
- 2.10 GSO 998 "Methods for detection of permissible radionuclide's limits in foodstuffs- Part 1: Gamma spectrometry analysis CS134, CS 137".
- 2.11 GSO 1000 "Methods of sampling for prepackaged food products".
- 2.12 GSO 1016 "Microbiological criteria for foodstuffs- Part 1".
- 2.13 GSO 1791 "Round tin cans with triple pieces used in packaging of foodstuffs".
- 2.14 GSO 1861 "Determination of histamine in fish and its by-products".
- 2.15 Gulf standards which the Organization shall approve; concerned with:
- 2.15.1 "Levels of lead in foodstuffs".

3- Definitions:

Canned tuna: Is a product containing the fish flesh of any of the appropriate species, which is normally packed in hermetically sealed containers and thermally treated sufficient to ensure its commercial sterility: *Thunnus alalunga*, *Thunnus albacares*, *Thunnus atlanticus*, *Thunnus obesus*, *Thunnus maccoyii*, *Tunnus thynnus*, *Thunnus tongoe*, *Euthynnus affinis*, *Euthynnus alleteratus*, *Euthynnus lineatus*, *Katsuwonus pelamis* (syn. *Euthynnus pelamis*), *Sarda chilensis*, *Sarda orientalis*, *Sarda sarda*.

4- Requirements:

The following requirements shall be met for the product:

- 4.1 The product shall be prepared from sound fish of the species mentioned in item (3); and of a quality fit to be sold fresh for the consumer.
- 4.2 The packing medium and other ingredients shall be of food grade and shall comply with Gulf Standards applicable to each.
- 4.3 The production shall be carried out as per the requirements stated in the Gulf Standard mentioned in item (2.2).
- 4.4 The product shall be free from food materials that pose a threat to human health.
- 4.5 The product shall not contain more than 10 mg/100 gm of histamine based on the average of the sample unit tested, provide that the histamine content shall not exceed 20mg/ 100 gm of any unit.
- 4.6 Lead content in the product shall not be more than that stated in the Gulf Standard mentioned in item (2.15.1).
- 4.7 Microbiological characteristics shall be as per the requirements stated in the Gulf Standard mentioned in item (2.12).
- 4.8 Radiological characteristics shall meet the requirements stated in the Gulf Standard mentioned in item (2.9).
- 4.9 Pesticide residues in the product shall not exceed the levels stated in the Gulf Standard mentioned in item (2.5).
- 4.10 The following additives are permissible :

Additive	International (*E)	Maximum level in final Product
4.10.1 Thickening agents (for use in packing media only):- - Alginic acid -Sodium alginate -Potassium alginate - Calcium alginate - Agar -Carrageenan and its Na, K and NH ₄ salts(including furcelleran) -PES -Carob bean gum -Guar gum -Tragacanth gum -Xanthan gum -Pectins -Sodium carboxy methy cellulose	400 401 402 404 406 407 407a 410 412 413 415 440 466	GMP
4.10.2 Modified starch:- - Acid treated starches (including white and yellow dextrin) -Alkaline treated starches -oxidized starches - Mo starch phosphate - Distarch phosphate, esterified	1401 1402 1404 1410 1412 1414	GMP

- Acetylated distarch phosphate	1413	
- phosphate distarch phosphate	1420/1421	
- Starch acetate	1422	
-Acetylated distarch adipate	1440	
-Hydroxypropyl starch	1442	
- Hydroxypropyl starch phosphate		
4.10.3 Acidity regulators:-		
- Acetic acid	260	GMP
- Lactic acid(L-,D-,and DL-)	270	
- Citric acid	330	
- Disodium diphosphate	450	10 ppm expressed as P ₂ O ₅ including natural phosphate
4.10.4 Natural flavors:-		
- Spice oils		
- Spice extracts		
-Smoke flavors (natural smoke solutions and extracts)		GMP

5. Packing shapes :

The product shall be packed in one of the following shapes:-

- 5.1 Solid (skin-on or skinless): Fish cut into transverse segments which are placed in the can parallel to the end of the can.

The proportion of free flakes or chunks shall not exceed 18% of the drained weight of the container.

- 5.2 Chunks: Pieces of fish with dimensions of not less than 1.2 cm in each direction, and in which the original muscle structures is retained, the proportion of pieces which the dimensions are less than 1.2cm shall not exceed 30% of the drained weight of the container.

- 5.3 Flakes: A mixture of particles and pieces of fish mostly with a dimensions less than 1.2cm in each direction but in which the muscular structure of the flesh is retained. The proportions of pieces of flesh whose dimensions are less than 1.2cm exceed 30% of the drained weight of the container.

- 5.4 Shredded: A mixture of particles of cooked fish that have been reduced to a uniform size, in which particles are discrete but non- paste..

- 5.5 Any other configuration different from the previously mentioned shapes, provided that it shall meet the requirements of this Standard and described on the label.

6. Sampling and tests :

6.1 Sampling:

Samples shall be taken in accordance with the Gulf Standard stated in item (2.11).

6.2 Tests:

- 6.2.1 Physical and chemical tests shall be carried out as per the Gulf Standard stated in item (2.6).
- 6.2.2 Determination of histamine shall be carried out in line with the Gulf Standard stated in item (2.14).
- 6.2.3 Radioactivity tests shall be carried out as per the Gulf Standard stated in item (2.10).
- 6.2.4 Microbiological tests shall be carried out as per the Gulf standard stated in item (2.7).

7. Packing, Transportation and Storage:

The following shall be observed when packing, transporting and storage the product:

7.1 Packing:

- 7.1.1 The container shall be free from defects which effect hermetic seal.
- 7.1.2 The containers shall meet the requirements of Gulf Standard stated in item (2.8), (2.13).

7.2 Transportation:

- 7.2.1 Transportation of the product shall be carried out using means that ensure its protection from mechanical damage and contamination.

7.3 Storage:

- 7.3.1 The stores shall comply with the requirements stated in the Gulf Standard mentioned in item (2.4).

8. Labeling:

Without prejudice to what is mentioned in the Gulf Standards stated in items (2.1), (2.3) .

the following label shall be declared on the label of the can:

- 8.1 The name of the food: "Tuna" and may be preceded with the name of the species and color.
- 8.2 Tuna color: Shall be white for the species *Thunnus alalunga*.
- 8.3 Packed shape shall be as per item (5).
- 8.4 Packing medium shall be as a part of the product name.

9. Acceptance level:

- 9.1 Sample unit shall be considered defective in the case of:-
 - 9.1.1 The presence of any matter which has t been derived from fish, does t pose a

threat of human health, and is easily recognizable with or without magnification, which indicates non-compliance with good manufacturing practices during processing.

- 9.1.2 Persistent and distinct objectionable odors or flavors, indicative of decomposition or rancidity.
- 9.1.3 Presence of excessively mushy flesh uncharacteristic of the species.
- 9.1.4 Presence of honey-combed flesh in excess of 5% of the drained content.
- 9.1.5 Presence of distinct discoloration in the sample in excess of 5% of the drained weight, which is indicative of decomposition or rancidity.
- 9.1.6 Presence of structurally crystals greater than 5mm in length in sample unit.
- 9.2 Sample unit shall be considered acceptable in such cases as:
 - 9.2.1 When it is free from defective units declared in items (9.1.1) to (9.1.6).
 - 9.2.2 If the average net weight or the average weight of drained fish meat of sample units examined is not less than the declared weight.
 - 9.2.3 When it complies with the requirements of food additives, hygiene and labeling requirements for this standard.