

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية

**G.C.C STANDARDIZATION ORGANIZATION
FOR (GSO)**

Final draft

GSO/FDS.../2014

الفواكه الحمضية المعلبة

Canned Citrus Fruits

Prepared by:

Gulf technical committee for Food and agriculture products

This document is a draft Gulf standard circulated for comments, it is therefore, subject to alteration and modification, and may not be referred as a Gulf standard, until approved by the Board of Directors

ICS: 67:060

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) "Gulf technical committee for Foods and Agricultural products" has prepared the Gulf Standard for "Canned citrus fruits". The draft Standard has been prepared by State of Qatar.

This Standard has been approved as a Gulf Technical Regulation without any technical modifications by GSO Board of Directors in its meeting No. (), held on / / H, / / G.

Canned Citrus Fruits

1-Scope and field of application:

This Gulf Standard is concerned with the requirements which should be met in canned citrus fruits, and offered for direct human consumption, or for repacking, and does not apply when intended for further processing.

2-Complementary Standards:

- 2.1 GSO 9" Labeling of prepackaged food stuffs".
- 2.2 GSO 21" Hygienic regulations for food plants and their personnel" .
- 2.3 GSO 123" General requirements for fresh fruits and vegetables" .
- 2.4 GSO 150- 2" Expiration periods of food products – Part 2: Guidelines expiration period" .
- 2.5 GSO 168" Conditions of storage facilities for dry and packed food stuffs".
- 2.6 GSO 177" Methods of physical and chemical tests of canned vegetables" .
- 2.7 GSO 178 Microbiological methods for testing of canned vegetables" .
- 2.8 GSO 382, 383" Maximum limits for pesticide residues in agricultural and food products- Parts 1, 2" .
- 2.9 GSO 839" Food packages- Part 1: General requirements".
- 2.10 GSO 841" Maximum limits of fungi toxins permitted in food and animal feeds- Aflatoxine".
- 2.11 GSO 988" Limits of radioactivity levels permitted in food stuffs- Part 1" .
- 2.12 GSO 998" Methods for the detection of permissible radionuclide in food- Part 1: Gamma spectrometry analysis: A, Cs 134, Cs 137".
- 2.13 GSO 1016" Microbiological criteria for food stuffs- Part 1".
- 2.14 GSO 1287" Methods of sampling of prepackaged fruit and vegetable products" .
- 2.15 GSO 1791" Three piece steel round cans used for canning food stuffs".
- 2.16 GSO/CAC 192" General Standard for food additives" .
- 2.17 GSO/CAC 193: General Standard for contaminants and toxins in food and feed".
- 2.18 Gulf Standards which Organization shall be approved concerned with:
 - 2.18.1 Methods for the determination of fungi toxins in food and animal feeds" .
 - 2.18.2 Methods for the determination of pesticide residues" .

3- Definitions:

3.1 Canned citrus fruits:

Food product prepared from washed, sound and mature ripe grapefruit (*Citrus paradise* Macfadyen), mandarin oranges (*Citrus reticulata* Blanco, including all the suitable commercial varieties for canning), sweet orange varieties (*Citrus sinensis* (L.), osbeck, including all the suitable commercial varieties for canning) or pummelo (*Citrus Maxima* Merr. Or *Citrus grandis* (L.), which before processing shall have been properly washed and peeled and the membrane, seeds and core and fiber strands shall have been removed, packed with water or other suitable liquid packing medium, sugars, honey, suitable spices or flavoring appropriate to the product, and processed by heat, in an appropriate manner, or after being hermetically sealed in a container, so as to prevent spoilage.

4- Styles:

4.1 The styles of the products shall be sufficient large to stay on sieve surface 8 mm², and its diameter openings 2 mm, according Table No. (1):

Table No. (1)

Product	Whole	Broken	Twin	Pieces
Canned grapefruits and canned sweet orange	Not less than 75% of original segment	Less than 75% of original segment		
Canned Pummelo	Not less than 50% of original segment	Less than 50% of original segment		Large enough to remain on a sieve screen of 2 mm diameter
Canned mandarin orange	Not less than 75% of original segment	Not less than 50% of original segment but Large enough to remain on a sieve screen of 2 mm diameter	Less than 50% of original segment, except two or three segments joined together, which have not been separated during processing	

4.2 Other styles: Any other styles of the product should be permitted provided that complies with the Items of this Standard.

5- Sizes (in canned mandarin oranges in whole segment style may be designed according to size in the following manner):

5.1 "Large" - 20 or less whole segments per 100 g of drained fruit .

5.2 "Medium" - 21 to 35 whole segments per 100 g of drained fruit .

5.3 "Small" - 36 or more whole segments per 100 g of drained fruit .

6- Requirements:

The following requirements shall be met in the product:

6.1 The fruits used in the production shall be complying with what mentioned in Gulf Standard stated in Item (2.3).

6.2 The production shall be carried out according to the requirements mentioned in Gulf Standard stated in Item (2.2).

6.3 The raw materials used in the production shall be complying with Gulf Standards specific to each.

6.4 The product shall have color, flavor, odor and texture characteristic of the product:

6.4.1 Color (for canned grapefruits or canned pummelo): White or pink or pale yellow according to the color of product flesh, the color of packing medium shall be reasonably clear or according to the color of added fruit juice.

6.4.2 Flavor and odor: The canned product shall have a normal flavor and odor, free from foreign flavor and odor, the flavor of canned grapefruit shall be complying with the specific substances used.

6.4.3 Texture: Canned product shall be firm and free from dry cells or fibrous portions affecting the appearance or edibility of the product, the whole segments shall be practically free from signs of distinegration.

6.5 The wholeness in the style of whole segments shall be not less than 50% by weight of the product drained weight.

6.6 The uniformity of size for canned mandarin oranges whole segments shall be not less than 95% by count, and the weight of largest unit shall be no more than twice the weight of the smallest unit.

6.7 Defects :

6.7.1 The total surface covered by membrane shall not exceed 20 cm² per 500 g of total contents.

6.7.2 The seeds shall not exceed 4 per each 500 g of the total content.

6.7.3 Blemished units not more than 15% by weight of the drained weight of the product.

6.7.4 Defects for canned mandarin oranges shall not exceed the limits declared in Table (2):

Table (2)

Defect	Maximum limit in the drained product
Broken segments (in whole segments)	10% (m/m)
Broken segments (in twin segments)	15% (m/m)
Mambrane (aggregate area)	7 cm ² /100 g (based on sample average)
Fibre strands (aggregate length)	5 cm /100 g (based on sample average)
Seeds (that measure more than 4 mm in any dimension)	1/100 g (based on sample average)

6.8 Pesticide residues in the product shall not exceed the allowable limits according to Gulf Standard stated in Item (2.8).

6.9 Microbiological criteria of the product shall comply with Gulf Standard stated in Item (2.13).

6.10 The radioactivity contaminant limits for the product shall comply with Gulf Standard stated in Item (2.11).

6.11 Contaminating metallic elements content shall not exceed to what mentioned in Gulf Standard stated in Item (2.17).

6.12 The additives shall be according to Gulf Standard stated in Item (2.16).

7- Sampling:

Samples shall be taken according to Gulf Standard stated in Item (2.14).

8- Methods of examination and test:

8.1 Physical and chemical examination shall be carried out according to Gulf Standard stated in Item (2.6).

8.2 Microbiological examination shall be carried out according to Gulf Standard stated in Item (2.7).

8.3 Determination of aflatoxins shall be carried out according to Gulf Standard stated in Item (2.18.1).

8.4 Determination of pesticides residues shall be carried out according to Gulf Standard stated in Item (2.18.2).

8.5 Detection of radioactivity limits shall be carried out according to Gulf Standard stated in Item (2.12).

9- Packaging, transportation and storage:

9.1 Packaging:

9.1.1 Without prejudice to what mentioned in Gulf Standards stated in Items (2.9, 2.15), the product shall be packaged in suitable containers to keep the it and protect it from any contamination lead to change its properties or its fitting for human consumption.

9.1.2 The cans shall be coated from inside with varnish material suitable with medium or solution packaging.

9.1.3 The vacuum inside the cans shall not be less than 1000 mm mercury.

9.1.4 Volume content shall not be less than 90% from water capacity of the container.

9.1.5 The drained weight shall not be less than 50% of the product net weight for canned grapefruit and other sweet orange varieties, and 40% for canned pummel and 65% for canned mandarin oranges.

9.2 Transportation:

Product transportation shall be carried out by means of sound and clean means, do not previously used in transportation of any poisoning or harmful materials, and the transportation shall be carried out with a way do not lead to spoilage of the product.

9.3 Storage:

Without prejudice to what mentioned in Gulf Standards stated in Items (2.5), the stores shall be good ventilation and far from heat and contamination sources.

10 - Labeling:

Without prejudice to what mentioned in Gulf Standards stated in Items (2.1, 2.4), the following shall be declared on the label:

10.1 Name of the product: Canned grapefruit, mandarin oranges, pummel or sweet orange according to Item (3).

10.2 Style of the product:

10.2.1 For canned grapefruit, sweet orange and pummel:

10.2.1.1 Style of the product shall be according to Item (4).

10.2.1.2 The statement "pink color" shall be included as part of the name for canned grapefruit and pummelo.

10.2.1.3 If an added flavor, the name of the flavor shall be included as part of the name of the product.

10.2.2 For canned mandarin oranges: The style shall be declared as a part of the name as follows:

10.2.2.1 Whole and broken segments: A size classification for whole or broken segments may be declared as in Item (5), in addition, the number of units present in the container.