

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

مشروع مواصفة نهائي
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اعداد اللجنة الفنية الخليجية رقم TC05

Prepared by GSO Technical Committee No. TC05

الثلج المعد للاستهلاك الادمي ICE FOR HUMAN CONSUMPTION

I.C.S: 67:160:20

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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 الهيئة.

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) "Technical committee for standards of food and agriculture products" has prepared draft update for GSO Standard No. : GSO 384/ 1994" ICE FOR HUMAN CONSUMPTION" The Draft Standard has been prepared by Kingdom of Saudi Arabia .

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

ICE FOR HUMAN CONSUMPTION

1. SCOPE AND FIELD OF APPLICATION

This standard is concerned with ice for human consumption.

2. COMPLEMENTARY REFERENCES

- 2.1 GSO 9 “Labelling of Prepackaged Foods”.
- 2.2 GSO 21 “Hygienic Regulations for Food Plants and Their Personnel”.
- 2.3 GSO 112 “Methods of Test for Drinking and Mineral Water - Part 2: Determination of Physical Characteristics”.
- 2.4 GSO 149 “Unbottled Drinking Water”.
- 2.5 GSO 116 “Methods of Test for Drinking and Mineral Water - Part 3: Determination of Total Dissolved Solids, pH Value and Residual Chlorine”.
- 2.6 GSO 117 “Methods of Test for Drinking and Mineral Water - Part 4: Methods for the Determination of Cadmium, Lead, Arsenic, Selenium and Cyanide”.
- 2.7 GSO 154 “Methods of Test for Drinking and Mineral Water - Part 7: Determination of Mercury, Hexavalent Chromium, Silver and Barium”.
- 2.8 GSO 968 Stores for frozen and chilled foodstuff -Part I:Definitions,classification and terminology.
- 2.9 GSO 969 Stores for frozen and chilled foodstuff-PART 2: General requirements
- 2.10 GSO 970 Stores for frozen and chilled foodstuff -PART3:Labelling and marking
- 2.11 Other GSO standards to be approved by GSMO on the methods of test for drinking and mineral water”.

3. DEFINITIONS

Ice for human consumption: Ice produced by completely freezing potable water at a temperature not exceeding (-10)°C in different shapes and sizes such as blocks, cubes, shells, ... etc.

4. REQUIREMENTS

4.1 Handling, storage and service of ice

Without prejudice to what is stated in the GSO standard mentioned in 2.2, the following shall be taken into consideration on manufacturing ice for human consumption:

- 4.1.1 Water used in manufacturing ice for human consumption shall comply with the GSO standard mentioned in 2.4.
- 4.1.2 All the containers and lids used in manufacturing shall be clean and thoroughly washed, before use, with sodium carbonate or sodium bicarbonate or any other

suitable detergent solution and sanitized with water containing 50 ppm available chlorine, iodoform or quaternary ammonium compounds in an appropriate concentration, then rinsed with the same water used in the manufacturing so that the residues of cleaning substances and sanitizers are well removed.

- 4.1.3 Water used in ice manufacturing shall be placed in suitable tanks covered with tight-fitting lids, examined daily and cleaned properly once every month using coarse brush with water containing 100 ppm chlorine. Then rinsed to remove washings and ventilated before reusing.
- 4.1.4 Ice blocks shall be thoroughly washed with potable water as they come to the delivery platform prior to distribution.
- 4.1.5 No person shall be allowed to enter any area where ice contacts the floor unless he wears clean suitable boots or shoe covering.
- 4.1.6 A room in which ice is manufactured shall be used for no other purpose than the manufacture of ice and the production of refrigeration, and may contain refrigeration equipment and machinery. This subdivision shall not apply to any food facility.
- 4.1.7 Ice storage or processing areas shall be maintained in a clean and sanitary condition and no noxious or offensive odors, smoking, or other air pollution shall be permitted therein.
- 4.1.8 Cover tops for tank cans shall have a smooth, painted, or treated surface, and shall be cleaned daily. Water used for cleaning shall not be permitted to drip into freezing cans. Only potable water shall comply with the GSO standard mentioned in 2.4. shall be used in sprays and in the thaw tanks for the removal of ice from cans. Water coverage tanks shall be covered and provided with filtered vents.
- 4.1.9 Block ice-loading platforms shall be washed with water as often as necessary to keep them in a clean and sanitary condition, but not less than once each day.
- 4.1.10 Ice shall be handled only with clean tongs, ice-carrying bags, scoops, or other sanitary containers, and shall not be directly handled with bare hands.
- 4.1.11 All frozen unpackaged ice blocks intended for sale for human consumption or for the refrigeration of food products shall be washed thoroughly with potable water shall comply with the GSO standard mentioned in 2.4.. Ice manufactured for industrial purposes need not be washed prior to shipping but shall be handled and stored separately from ice intended for human consumption.
- 4.1.12 Persons not directly involved in the manufacture, processing, packaging, or storing of ice, in the maintenance of facilities and equipment used therefore, or in the management, supervision, or inspection thereof, shall not be permitted in any area where ice is manufactured, processed, packaged, or stored, unless personal cleanliness and hygienic practices are taken to prevent contamination of the product. These areas shall have signs posted to this effect.
- 4.1.13 Filter beds and any filtering equipment shall be designed to protect ice from contamination and shall be subject to periodic treatment and cleaning.
- 4.1.14 All equipment and utensils used in ice production areas shall be of easily cleanable construction, shall be kept clean and in good repair, and shall be handled and

stored in a sanitary manner. Materials used as ice contact surfaces shall be smooth, nontoxic, and nonabsorbent. Ice cans shall be leak proof and the inner surfaces of the containers shall be free of corrosion.

- 4.1.15 Freezing tank covers shall be designed and constructed to protect ice containers from splash, drip, and other contamination, shall be easily cleanable, and shall be kept clean and in good repair. The covers shall be equipped with rings or similar devices when hooks are used for pulling. Can or tank covers, and the ledges or sides of the tank upon which the cover rests, shall be cleaned as often as necessary to keep them in a sanitary condition.
- 4.1.16 Conveyor surfaces shall be of impervious material and shall protect ice from contaminants that may result from shredding, flaking, peeling, or fragmentation of the conveyor surface.
- 4.1.17 Equipment lubrication shall not contaminate the ice and only food grade lubricants shall be used.
- 4.1.18 All product storage and holding areas to be refrigerated shall be cleaned as often as necessary to keep them free of contamination.
- 4.1.19 Air used for water agitation shall be filtered or otherwise treated to remove dust, dirt, insects, and extraneous material. Filters shall be placed upstream from the compressor and shall be easily removable for cleaning or replacement.
- 4.1.20 Handle ice with clean, non-breakable utensils, such as tongs or an ice scoop.
- 4.1.21 Crushed, cubed, or shaved ice, intended for human consumption, shall be stored in a manner that prevents its pollution or contamination.
- 4.1.22 should not use utensils ice for other purposes that are not designed for it.
- 4.2 Ice for human consumption shall meet the following requirements:
 - 4.2.1 Water produced by thawing shall comply with the GSO standard mentioned in 2.4.
 - 4.2.2 It shall not shatter easily on handling.
 - 4.2.3 It shall be clear, colourless and free from air bubbles and white snow butts.

5. SAMPLING

The following shall be met on sampling ice:

- 5.1 Precautions required for protecting samples, instruments and containers from contamination shall be taken.
- 5.2 Sampling containers shall have wide openings and be made from glass or any other suitable material. It shall be clean, dry and have suitable covers.
- 5.3 Samples shall be taken at random using instruments suitable for shattering or cutting ice blocks. Samples for microbiological tests shall be taken first and the instruments and containers for sampling shall be sterilized.
- 5.4 Samples for detection of radioactive elements shall be placed into polyethylene bags and examined immediately after collection.

- 5.5 Test samples shall not be less than 2 kg for chemical and physical tests, 1 kg for microbiological tests, and 1 kg for detection of radioactive elements.
- 5.6 Test samples shall be transferred in a suitable manner to prevent any contamination and shall arrive to the laboratory completely frozen.
- 5.7 The following information shall be legibly labelled on sample containers:
- Product name;
 - Date and time of sampling;
 - Purpose of examination;
 - Place of sampling;
 - Name and signature of the sampler.

6. METHODS OF EXAMINATION TEST

- 6.1 All physical, chemical, microbiological tests and determination of radioactive elements shall be carried out on ice after thawing inside the package at room temperature according to approved GSO standards mentioned in 2.8.
- 6.2 Tests shall be carried out on the representative sample drawn according to item (5) to determine its compliance with all the items of this standard.

7. PACKAGING

The following shall be taken into consideration on packaging:

For ice packaging, the packages shall be hygienic, suitable, intact and disposable.

8. LABELLING

Without prejudice to what is stated in the Gulf standards mentioned in (2.1) the following information shall be declared on the labelling:

- 8.1 Product Name Ice...
- 8.2 Type or shape of ice(shaved, cubed, nuggeted, and crushed).

9. TRANSPORTATION AND STORAGE

The following shall be taken into consideration on transportation and storage:

9.1 Transportation

- 9.1.1 Transportation means shall be clean, suitable and constructed in such a manner as to keep ice isolated from heat sources, to reach the selling points completely frozen, and to protect ice from shattering and contamination during transportation.
- 9.1.2 Temperature shall not exceed (-10)°C during transportation.

9.2 Storage

The stores shall be far from contamination sources and shall be heat isolated. Their temperature shall not exceed $(-10)^{\circ}\text{C}$. Stores and selling points what is stated in the gulf standards (2.8)(2.9)(2.10).

Reference:

- California Legislative Information, HEALTH AND SAFETY CODE SECTION 110970-111010
- FDA Regulates the Safety of Packaged Ice.
- Food and Environmental Hygiene Department Hong Kong Guidelines on Hygienic Production and Handling of Ice in Food Premises.