

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

مشروع: نهائي

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اللحوم المجهزة - السجق المتخمر الجاف ونصف الجاف

**PREPARED MEATS:
DRY AND SEMI-DRY FERMENTED SAUSAGE**

إعداد

اللجنة الفنية الخليجية لقطاع مواصفات المنتجات 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 الخليجية.

Foreword

Standardization Organization for GCC (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 regulation through specialized technical committees (TCs).

GSO through the technical program of committee TC No 5 " The Gulf Technical Committee for Food and Agricultural Standards Products" has prepared this Standard . The Draft Standard has been prepared by (KINGDOM OF SAUDI ARABIA)

The draft Standard has been prepared based on relevant ADMO, International and National foreign Standards and references.

This standard has been approved as Gulf (Standard / Technical Regulation) by GSO Board of Directors in its meeting No..../....held on / / / H , / / G

**PREPARED MEATS:
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Date of GSO Board of Directors' Approval :
Issuing Status :

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1- SCOPE AND FIELD OF APPLICATION

This GSO standard is concerned with dry and semi-dry fermented sausage processed from mutton, goat, beef, buffalo, or camel meats.

2- COMPLEMENTARY REFERENCES

- 2.1 GSO 9 "Labeling of Prepackaged Foods".
- 2.2 GSO 592 "Methods of Sampling for Meat and Meat Products.
- 2.3 GSO 996 Fresh of beef, buffalo mutton and goat meat "
- 2.4 GSO 655 "Methods of Microbiological Examination of Meat, Fish, Shell Fish and Their Products".
- 2.5 GSO 997 chilled and frozen of beef, buffalo mutton and goat meat "
- 2.6 GSO 20 "Methods for the Determination of Contaminating Metallic Elements in Foodstuffs".
- 2.7 GSO 21 "Hygienic Regulations for Food Plants and Their Personnel".
- 2.8 GSO 22 "Methods of Test for Coloring Matter Used in Foodstuffs".
- 2.9 GSO ISO 1443:1987 "Meat and Meat Products- Determination Of Total Fat."
- 2.10 GSO ISO 937:1987 "Meat and Meat Products- Determination of Nitrogen Content (Reference Method)".
- 2.11 GSO 88 "Meat and Meat Products- Determination of Chloride Content (Reference Method)".
- 2.12 GSO 91 "Meat and Meat Products- Determination of Moisture Content."
- 2.13 GSO ISO 2918:1988 "Meat and Meat Products - Determination of Nitrite Content (Reference Method)".
- 2.14 GSO ISO 2917:1988 "Meat and Meat Products – pH Measurement (Reference Method)".
- 2.15 GSO ISO 4133:1988 "Meat and Meat Products – Determination of Glucono-Delta Lactone (Reference Method)".
- 2.16 GSO 993 "Animal Slaughtering Requirements According to Islamic Law".
- 2.17 GSO 593 "Meat and Meat Products – Physical Tests".
- 2.18 GSO 834 "Fresh, Chilled and Frozen Camel Meat".

- 2.19 GSO 839 "Foodstuffs Containers – Part I – General Requirements".
GSO to be approved by the Organization concerning:
- 2.20 “Foodstuffs Containers – Part II: Plastic Containers – General Requirements”.
- 2.21 "Detection of Pork Meat in Foodstuffs".
- 2.22 "Detection of Lard in Foodstuffs".
- 2.23 GSO 1016 "Microbiological Limits for Foodstuffs – Part I".
- 2.24 “Maximum Limits of Pesticides Residues Permitted in Agricultural and Food Products – Part III”.
- 2.25 “Methods of Detection of Maximum Limits of Pesticides Residues in Food Products”.
- 2.26 "Detection and Determination of Hormones and Antibiotics Residues in Meats and Their Products".
- 2.27 GSO 988 "Limits of Radiation Levels Permitted in Foodstuffs".
- 2.28 GSO 998 "Methods of Detection of Permitted Limits of Radiation Levels in Foodstuffs".

3- DEFINITIONS

- 3.1 Fermented Sausage:** Food product prepared from chilled, or frozen boneless mutton, goat, beef, buffalo, or camel meat which has been ground and mixed with salt, sugar, starter culture, seasoning, permitted food preservatives and additives and stuffed into natural or artificial casings. The final product shall have an acidic taste with tangy flavor.
- 3.2 Unfermented sausage:** Sausage mentioned in (3.1) except starter culture is replaced with acidulants.
- 3.3 Fermentation:** Biochemical process in which added sugar converted to lactic acid by lactic acid bacteria giving the final product its acidic taste and with tangy flavor.
- 3.4 Starter culture:** Pure culture of one or more strain of home-fermentative lactic acid bacteria.
- 3.5 Acidulants:** Food grade acids added to give the product acidic taste such as lactic acid, citric acid and glucono-delta lactone.

4- TYPE OF FERMENTED SAUSAGE

- 4.1 Dry sausage: the sausage mentioned in (3.1), uncooked, dehydrated, which may or may not be smoked with final moisture content not more than 35%.
- 4.2 Semi-dry sausage: the sausage mentioned in (3.1), cooked and may or may not be smoked with final moisture content not more than 50%.

5- REQUIREMENTS

- 5.1 The following requirements shall be met in fermented sausage:
- 5.1.1 The meats used to produce the product shall be derived from animals slaughtered according to GSO standard mentioned in (2.16).
- 5.1.2 The meats used to produce the product shall be in compliance with GSO standard mentioned in (2.3 , 2.5 & 2.18).
- 5.1.3 The meat used for the product processing shall be from one animal type.
- 5.1.4 All the other ingredients used for the sausage processing shall be in compliance with their respective GSO standards.
- 5.1.5 The product shall be prepared according to hygienic regulations stated in GSO standard mentioned in (2.7).
- 5.1.6 If mechanically-deboned meat is used, its percentage shall not exceed 10% of the total weight of the raw meat used to process the product.
- 5.1.7 The product shall be free from pork meat and lard products or their derivatives.
- 5.1.8 It shall be free from foreign matter and unpleasant odors..
- 5.1.9 It shall contain no animal organs or viscera fit for human consumption.
- 5.1.10 It shall have acidic taste with the tangy flavor.
- 5.1.11 It shall be free from artificial coloring materials.
- 5.1.12 The product shall have a final pH of not more than 5.2.
- 5.1.13 The sodium chloride (table salt) content in the final product shall not exceed 5%.
- 5.1.14 The acid-insoluble salt shall not exceed 1.5% by mass.
- 5.1.15 The contaminating metallic elements shall not exceed the following (ppm on wet bases):
- | | |
|---------|-----|
| Mercury | 0.5 |
| Arsenic | 0.5 |
| Lead | 1 |
| Cadmium | 0.1 |
| Copper | 20 |
| Zinc | 20 |
- 5.1.16 **Additives**
- 5.1.16.1 Sodium and/or potassium nitrite content in the final product shall not exceed 125 ppm determined as sodium nitrite.
- 5.1.16.2 Natural spices, condiments and flavors according to GMP.
- 5.1.16.3 Binders such as: vegetable proteins and their products, skim milk powder, caseins, whey powder, egg protein, and shall not exceed 3.5% by mass, individually or in combination.

- 5.1.16.4 Fillers such as: starch, wheat flour, and shall not exceed 3.5% by mass, individually or in combination.
- 5.1.16.5 Sugars such as: Succors and Dextrose.
- 5.1.16.6 Sodium or potassium mono, di, or polyphosphate determined as benta-phosphoro oxide, , and shall not exceed 3000 ppm individually or in combination.
- 5.1.16.7 Acidulants such as:
- Lactic acid and citric acid. The total amount used in combination shall not exceed 1000 ppm.
 - Glucono-Delta-lactone. The total amount used shall not exceed 0.5% of the raw product weight.
- 5.1.16.8 Anti-mold preservative such as:
- Potassium sorbate and shall not exceed 0.1% of the raw product weight.
 - Potassium sorbate solution (2.5%) or propylparaben (3.5%) and shall be used only for soaking of the sausage casings before stuffing and processing.
- 5.1.16.9 Natural smoke solutions – according to GMP.
- 5.1.16.10 It is prohibited to add any substances containing oil or fat from source other than the source of the meat used to manufacture the product.
- 5.2 Microbiological limits shall not exceed limits stated in GSO mentioned in (2.23)
- 5.3 Pesticide residue shall not exceed the limits permitted stated in GSO (2.24).
- 5.4 Radioactivity levels shall not exceed the maximum limits stated in GSO mentioned in (2.27).

5.5 SEMI-DRY SAUSAGE

The following requirements shall be met in semi-dry sausage in addition to what has been mentioned in (4 and 5.1).

- 5.5.1 Moisture content shall not exceed 50% by mass in the final product.
- 5.5.2 Moisture to protein ratio shall not be more than 3:1.
- 5.5.3 Total fat content in the final product shall not exceed 35%.
- 5.5.4 After fermentation, the product must be cooked until its core temperature reaches 72°C and be held at that temperature for at least 10 minutes.

5.6 DRY SAUSAGE

The following requirements shall be met in dry sausage in addition to what has been mentioned in (4 and 5):

- 5.6.1 Moisture content shall not exceed 35 % by mass in the final product.
- 5.6.2 Moisture to protein ratio shall not be more than 1.9:1 in the final product.
- 5.6.3 Total fat content in the final product shall not exceed 40%.

5.7 IMPORTED DRY AND SEMI-DRY SAUSAGE

In addition to 5.1 through 5.6.3, the following requirements shall be met:

- 5.7.1 It is forbidden to import semi-dry and dry sausages from any country where there are epidemic diseases as defined in the quarantine rules of the GULF except after obtaining prior permission from the concerned authorities.
- 5.7.2 The imported lot shall be accompanied with a certificate approved and ratified by the GULF Consulate or any delegated body indicating that the meat used in sausage processing was from animals slaughtered according to Islamic rules, as well as the date of slaughtering, animal type and that the product has been found free from infectious diseases and fit for human consumption.
- 5.7.3 The imported lot shall be accompanied with a certificate of the country of origin indicating the country from which the product was imported, approved and ratified by the GULF Consulate or its representative

6- SAMPLING

Samples shall be taken according to the GSO standard mentioned in (2.2).

7- METHODS OF INSPECTION AND EXAMINATION

7.1 Methods of Inspection

- 7.1.1 Total fat content shall be determined according to the GSO standard mentioned in (2.9).
- 7.1.2 Total protein content shall be determined according to the GSO standard mentioned in (2.10).
- 7.1.3 Sodium chloride shall be determined according to the GSO standard mentioned in (2.11).
- 7.1.4 Moisture content shall be determined according to the GSO standard mentioned in (2.12).
- 7.1.5 Nitrite content shall be determined according to the GSO standard mentioned in (2.13).

- 7.1.6 pH shall be determined according to the GSO standard mentioned in (2.14).
- 7.1.7 Glucono-delta-lactone content shall be determined according to the GSO standard mentioned in (2.15).
- 7.1.8 Pork meat shall be determined according to the GSO standard mentioned in (2.21).
- 7.1.9 Lard shall be determined according to the GSO standard mentioned in (2.22).
- 7.1.10 Microbiological examination shall be carried out according to the GSO standard mentioned in (2.4)
- 7.1.11 Contaminating metallic elements shall be determined according to the GSO standard mentioned in (2.6).
- 7.1.12 Detection of coloring matter shall be carried out according to the GSO standard mentioned in (2.8).
- 7.1.13 Detection of limits of pesticides residue shall be determined according to the GSO standard mentioned in (2.25).
- 7.1.14 Detection of hormones and antibiotics shall be carried out according to the GSO standard mentioned in (2.26).
- 7.1.15 Detection of limits of radioactivity levels shall be determined according to the GSO standard mentioned in (2.28).

7.2 Tests

All required tests shall be carried out on the representatives samples taken according to (9) of this standard to determine its compliance therewith.

8- PACKAGING, TRANSPORT AND STORAGE

8.1 Packaging

Without prejudice to what is stated is the GSO standard mentioned in (2.18 and 2.19), the following shall be met:

- 8.1.1 The containers used in packaging shall be clean, hygienic, and hermitically sealed and made from suitable material which would not affect quality and safe handling of the product.
- 8.1.2 The product units in each package shall be identical in the shape, size and weight.

8.2 Transportation and Storage

The following shall be met during transportation and storing of fermented sausage:

- 8.2.1 Transportation shall be carried out by suitable means which was not previously used in transporting of poisonous or harmful substances.

- 8.2.2 Transportation and storage shall be carried out under conditions which protect the product from mechanical damage and decay.
- 8.2.3 The shelf-life of dry sausage shall not exceed 6 months from the production date when stored at 25°C.
- 8.2.4 The shelf-life of semi-dry sausage shall not exceed 3 months from the production date when stored at 4°C.
- 8.2.5 The shelf-life of sliced vacuum-packaged dry sausage shall not exceed 3 months from the production date when stored at 25°C.
- 8.2.6 The shelf-life of sliced vacuum-packaged semi-dry sausage shall not exceed 3 months from the production date when stored at 4°C.

9- LABELLING

Without prejudice to what is stated in the GSO standard mentioned in (2.1), the following information shall be clearly declared on the package:

- 9.1 Type of meat used.
- 9.2 Sausage type(Fermented dry or semi-dry).
- 9.3 The statement "unfermented sausage" when acidulants were used instead of starter culture
- 9.4 The statement "cooked sausage" when the product has been cooked.
- 9.5 Pure meat percentage in the final product.
- 9.6 Fat percentage in the final (clearly written).
- 9.7 Binders and fillers added.
- 9.8 The statement" casing to be removed before eating" when it is not suitable for human consumption.
- 9.9 Storage conditions.