

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

مشروع نهائي

**GSO 5/FDS..... / 2011**

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**FRIED CORN CHIPS  
(CORN, TORTILLA CHIPS AND TACO SHELLS)**

## 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

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



# **FRIED CORN CHIPS**

## **(CORN, TORTILLA CHIPS AND TACO SHELLS)**

### **1- SCOPE AND FIELD OF APPLICATION**

This standard is concerned with fried corn chips ready to eat, as defined in section 3.1 such as chips, tortillas, tacos or similar products. It does not apply to pop corn.

### **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 23 “Colouring Matter Used in Foodstuffs”.
- 2.4 GSO 285 “Methods of Test for Fried Potatoes”.
- 2.5 GSO 356 “Preservatives Permitted for Use in Food Products”.
- 2.6 GSO 357 “Antioxidants Permitted for Use in Food Products”.
- 2.7 GSO 381 “Emulsifiers, Stabilizers, and Thickeners Permitted for Use in Foodstuffs”.
- 2.8 GSO 382 “Maximum Limits for Pesticide Residues in Agricultural and Food Products - Part 1”.
- 2.9 GSO 383 “Maximum Limits for Pesticide Residues in Agricultural and Food Products - Part 2”.
- 2.10 GSO 168 “Conditions of Storage Facilities for Dry and Canned Foodstuffs”.
- 2.11 GSO 707 “Flavourings Permitted for Use in Foodstuffs”.
- 2.12 GSO 839 “Food Packages - Part 1: General Requirements”.
- 2.13 GSO 841 “Maximum Limits of Omycotoxins Permitted in Foods and Animal Feeds - Aflatoxins”.
- 2.14 GSO 1863 “Food Packages - Part II: Plastic Packages, General Regulations”.
- 2.15 GSO 988 “Limits of Radioactivity Levels Permitted in Foodstuffs - Part I”.
- 2.16 GSO 1000 “Methods of Sampling - Packaged Foodstuffs”.
- 2.17 GSO 1016 “Microbiological Criteria for Foodstuffs - Part I”.
- 2.18 GSO/CAC 193 " General Standard for contaminants & toxins in food ".
- 2.19 GSO1908 " Requirements for the use of frying oils and fats ".

### **3- DEFINITIONS**

#### **3.1 Fried Corn Chips Ready to Eat**

A product prepared mainly from whole corn grains Zay mays L. The corn is cooked in water containing lime, then ground, kneaded made into sheets, cut, and either baked and fried or just fried in an edible oil at a suitable temperature and time. The product can be prepared directly from commercial masa flour.

#### **3.2 Masa flour**

Flour prepared from corn grains which are cooked in water containing lime.

#### **3.3 Corn Chips**

A food product prepared as defined in 3.1. It is in the form of chips which are just fried without the baking step.

#### **3.4 Tortilla chips**

A food product prepared as defined in 3.1. The chips are baked at a suitable temperature and time before frying.

#### **3.5 Taco shells**

A food product prepared as defined in 3.1. The shells are tortillas that are bent into a U-shape during frying. The inside of the shells is later filled with suitable fillings.

#### **3.6 Visual defects**

They include the external defects such as burnt and dark pieces, puffed, folded or deformed, broken pieces, and those pieces with improper size and thickness.

### **4- REQUIREMENTS**

The following requirements shall be met in the product:

4.1 It shall be clean and free from objectionable matter.

4.2 It shall be free from rancidity or any other undesirable flavor.

4.3 It shall be free from animal fats or pig products and their derivatives.

4.4 The materials used shall comply with their respective GSO standards.

- 4.5 It shall have a crisp, cellular, and uniform structure.
- 4.6 Corn variety shall be suitable for this product.
- 4.7 It shall have a uniform colour ranging between yellow and light brown.
- 4.8 Units with visual defects described in 3.6 shall not exceed 15% by mass, including 6% by mass puffed units.
- 4.9 Method of cooking corn in water containing lime shall be limited by GMP.
- 4.10 Free fatty acids shall not exceed 1.5% by mass determined as oleic acid in the extracted oil.
- 4.11 Moisture content shall not exceed 2% by mass.
- 4.12 Oil content shall not exceed 35% on dry mass basis.
- 4.13 Table salt percentage shall not exceed 3% on dry mass basis.
- 4.14 Total ash free from sodium chloride shall not exceed 3% on dry mass basis.
- 4.15 Without prejudice to the requirements stated in the GSO standards mentioned in 2.3, 2.5, 2.6, 2.7 and 2.11 the following substances may be optionally added:
  - 4.15.1 Table salt (no more than 3% based on dry mass).
  - 4.15.2 Spices and condiments.
  - 4.15.3 Sugar.
  - 4.15.4 Vegetable proteins.
  - 4.15.5 Corn or potato flour.
  - 4.15.6 Natural colours and flavors such as caramel.
  - 4.15.7 Antioxidants.
  - 4.15.8 Preservatives.
  - 4.15.9 Emulsifiers.
  - 4.15.10 Flavor improvers such as glutamic acid, monosodium glutamate and natural vinegar.
- 4.16 It shall be processed according to the hygienic conditions given in the GSO standards mentioned in 2.2.
- 4.17 It shall not exceed the limits of pesticide residue prescribed in the GSO standards mentioned in 2.8 and 2.9.
- 4.18 It shall not exceed the limits of fungal toxins (aflatoxins) prescribed in the GSO standards mentioned in 2.13.

- 4.19 It shall not exceed the limits of radiation prescribed in the GSO standards mentioned in 2.15.
- 4.20 It shall not exceed the microbiological limits prescribed in the GSO standards mentioned in 2.17.
- 4.21 The toxins and contaminants limits shall comply with those maximum limits mentioned in GSO standard stated in item ( 2.18 ).
- 4.22 The expiry date shall not exceed 9 months.
- 4.23 It shall comply with requirements of labelling of prepackaged foods described in the GSO standards mentioned in 2.1.
- 4.24 Frying oils shall be clean and prepared from unsaturated type intended for frying, and it shall comply with requirements of GSO standards mentioned in 2.19.

## **5- SAMPLING**

Samples shall be taken according to the GSO standards mentioned in 2.16.

## **6- METHODS OF TEST**

Samples taken in accordance with item (5) shall be subjected to all tests described in the GSO standards mentioned in (2.4) to determine its compliance with this standard.

## **7- PACKAGING**

Without prejudice to the requirements stated in the GSO standards mentioned in 2.12 and 2.14 the following shall be met:

- 7.1 The product shall be packaged in suitable, moisture proof, airtight, and not previously used containers, that do not affect the quality of the product.
- 7.2 The product may be packaged under vacuum or nitrogen.
- 7.3 The product shall be allowed to cool to the storage temperature, then packaged within 2 hours.

## **8- TRANSPORTATION AND STORAGE**

Without prejudice to the requirements stated in the GSO standards mentioned in 2.10 the following shall be met:

- 8.1 Packages shall be transported and stored in such a way as to protect the product from damage and spoilage.
- 8.2 Products shall be transported and stored in cool, dry and well-ventilated stores far away from contamination, high temperature sources and direct sunlight.



## **9- LABELLING**

Without prejudice to the requirements stated in the GSO standards mentioned in 2.1 the Arabic information shall comply with the other languages inscribed on the label. The following shall be declared on the label:

- 9.1 Name of the product: Corn Chips, Tortilla Chips, taco shells or similar products.
- 9.2 Type of oil used in frying.
- 9.3 Food additives.
- 9.4 Production and expiration dates “month-year”.

## **REFERENCES**

- (1) Johnson , A . L (1991). Corn : Production , Processing , and utilization. Ch . 2 . In Handbook of Cereal Science and Technology , edited by Lorenze , K.J. and kulp, K. Marcel Dekker INC, Newyork, Newyork, U.S.A. pp 63-64 . ( )
- (2) Maga , A.J (1991) . Cereal - based snack Foods . Ch. 20 . In Handbook of cereal science and Technology , edited by Lorens, K.J . and KULP , K. Marcel Dakker, INC, Newyork , Newyork U.S.A. pp 695-797 . ( )
- (3) Rooney, W.L and serna- sallivar, s . (1987) Food uses of whole corn and dry - milled Fractions. ch . 13. In Corn chemistry and Technology, edited by Watson S.A and Ramstad, P.E. American Association of Cereal chemists, INC. St . Paul, Minnesota . U.S.A. pp 410-419 . ( )
- (4) Gulf Standard GSO No. 286 : Fried Potatoes . GSO 286 ( )