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GCC STANDARDIZATION ORGANIZATION (GSO)

Final Draft of Standard FDS

Prepared by GSO Technical Committee No. TC05

GSO 05 FDS 336:2021

Cheddar Cheese

I.C.S: 67.100

This document is a draft GSO Standard circulated for comments. It is, therefore, subject to alteration and modification and may not be referred to as a GSO Standard until approved by GSO.

Introduction

GCC Standardization Organization (GSO) is a regional organization that 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 Agricultural Products", has updated the GSO Technical Regulation No. 336 "Cheddar Cheese". The update was prepared by the United Arab Emirates. The draft was prepared in both Arabic and English after reviewing related Arab and international standards and publications.

This technical regulation has been approved by GSO Board of Directors in its meeting No. (), held on (/ /). It abrogates and replaces GSO Technical Regulation GSO 336:2010.

Cheddar Cheese

1. Scope:

This GSO standard applies to the requirements needed in cheddar cheese intended for direct human consumption or for further processing in accordance with the description in Section 3 of this standard.

2. Complimentary references:

- 2.1 GSO 2333 Requirements for Nutrition and Health Claim in Food
- 2.2 GSO 9 Labeling Prepackaged Foodstuffs
- 2.3 GSO 21 Hygienic Regulations for Food Plants and Their Personnel
- 2.4 GSO/CAC/RCP 57 Code of Hygienic Practices for Milk and Milk Products
- 2.5 GSO 149: Unbottled Drinking Water
- 2.6 GSO 150-1 Expiration Periods of Food Products- Part I, Mandatory Expiration Dates
- 2.7 GSO 150-2 Expiration Periods of Food Products- Part II, Optional Expiration Dates
- 2.8 GSO/CAC 193: General Standard for Contaminants and Toxins in Foods and Feeds.
- 2.9 GSO CAC 206 General Guidelines for the Use of Dairy Terms
- 2.10 CXS 234: Recommended Methods of Analysis and Sampling
- 2.11 GSO 323 General Requirements for Transportation and Storage of Chilled and Frozen Foods
- 2.12 GSO 382, GCO 383: Limits of Pesticide Residues Permitted in Agricultural and Food Products – Part I and Part II
- 2.13 GSO 839 Food Packages – Part I: General Requirements
- 2.14 GSO 988 Limits of Radioactivity Levels Permitted in Foodstuffs – Part 1
- 2.15 GSO 1016 Microbiological Criteria of Food Products
- 2.16 GSO 1694 General Principles of Food Hygiene
- 2.17 GSO 1863 Food Packages - Part II: Plastic Package - General Requirements.
- 2.18 GSO 2000 General Standard for Cheese
- 2.19 GSO 2055-1 Halal Products - Part I: General Requirements of Halal Food
- 2.20 GSO 2233 Requirements of Nutritional Labeling
- 2.21 GSO 2276 Detection of Lard in Food
- 2.22 GSO 2507 General Standard on Food Enzymes
- 2.23 GSO 2481: Maximum Residues Limits (Mrls) of Veterinary Drugs in Food.
- 2.24 GSO 2483: Trans Fats (fatty acids)
- 2.25 GSO 2500: Additives Permitted for Use in Food Stuffs.
- 2.26 Standard to be approved by GSO “Maximum Limit Guidelines for Salt in Food Products”.
- 2.27 Standard to be approved by GSO “Dairy Products Analogue”

3. Definitions

For the purpose of this technical regulation,

3.1 **Cheddar cheese** means:

a ripened hard cheese in conformity with GSO Standard mentioned in 2.18. The body has a near white or ivory colour through to light yellow or orange colour and has a firm texture (when pressed by thumb), but it is smooth and waxy. Gas holes are absent, but a few openings and splits are acceptable. The cheese is manufactured and sold with or without rind¹ which may be coated.

The natural (conventional) ripening process to develop flavour and texture for cheddar ready for direct consumption normally takes 5 weeks at 7-15 °C depending on the extent of maturity required, provided that the cheese exhibits similar physical, biochemical and sensory properties as those achieved by the previously mentioned ripening procedure. Cheddar intended for further processing does not necessary need to exhibit the same extent of ripening when justified through technical and/or trade requirements.

4. Requirements:

Without prejudice to GSO standard mentioned in 2.18, cheddar cheese should meet the following requirements:

4.1 The production shall meet the hygienic regulations and requirements outlined in GSO standards mentioned in 2.3 and 2.16.

4.2 Hygienic practices for milk and milk products shall comply with the GSO standard mentioned in 2.4 and the ingredients used in the manufacturing process shall comply with the relevant GOS standards.

4.3 Without prejudice to GSO standard mentioned in 2.19, the product should be completely free from pig products and their derivatives.

4.4 Cow's milk, buffalo's milk or a mixture of both or any other (halal) animal milk source and their by-products shall be used and shall comply with the relevant GSO standards.

4.5 The product shall have the natural sensory properties in terms of form and distinctive colour, flavour and texture, and shall be free of rancidity and extraneous odour and flavour.

4.6 The product should be free of extraneous matters, defects, apparent molds and all types of live and dead insects, in part or in whole.

4.7 The product shall be free of trans fats (fatty acids) or other vegetable oils in accordance with GSO standards mentioned in 2.24 and 2.27.

4.8 Without prejudice to GSO standard mentioned in 2.25, only those food additives classes indicated as justified in Table 1 below may be used for the product categories specified.

¹ This does not mean that the rind has been removed before sale. Instead, the cheese has been ripened and/or stored in such a way that the rind is not formed (rindless cheese). Ripening film is used in the manufacture of rindless cheese (see 2.18 "General Standard for Cheese" in the complementary references).

Table 1: Food Additives According to Functional Classes

Food additive functional class:	Justified Use	
	Cheese Mass	Surface/Rind Treatment
Colours	x ^(a)	-
Bleaching agents	-	-
Acidity regulators	x	-
Stabilizers	-	-
Thickeners	-	-
Emulsifiers	-	-
Antioxidants	-	-
Preservatives	x	x
Foaming agents	-	-
Anti-caking agents	-	x ^(b)
(a)	Only to obtain the colour characteristics.	
(b)	For the surface of sliced, cut or rough or smoothly shredded cheese, only.	
X	The use of additives belonging to this class is technologically justified.	
-	The use of additives belonging to this class is not technologically justified.	

4.9 The following optional ingredients may be used during cheese making; and no other additional ingredients should be used other than the ones listed below:

- Starter cultures of harmless lactic acid and/or flavour producing bacteria and cultures of other harmless microorganisms.
- Rennet or other safe and suitable coagulating enzymes to help in the cheese ripening process in accordance with GSO standard mentioned in 2.22.
- Sodium chloride or potassium chloride as a salt substitute in line with GSO standard mentioned in 2.26.
- Potable water in accordance with GSO standard mentioned in 2.5.
- Safe and suitable processing aids.
- Rice, corn and potato flours and starches: without prejudice to the requirements outlined in the General Standard for Cheese mentioned in 2.18, these substances can be used as anti-caking agents for the treatment of the surface of cut, sliced or shredded products only, provided that that they are added only in amounts functionally necessary as governed by Good Manufacturing Practice, taking into account any other use of anti-caking agents listed in 2.25.

4.10 The product composition shall comply with Table 2 below:

Table 2 – Cheddar Cheese Composition

Milk ingredients	Minimum Content	Maximum Content	Reference Level
	*(m/m)	*(m/m)	*(m/m)
Milkfat in dry matter	22%	Not restricted	48% to 60%
Dry matter	Depending on the fat in the dry matter content, according to the table below:		
	Fat in dry matter content *(m/m)		Corresponding minimum dry matter content *(m/m)
	Equal to or greater than 22% but less than 30%		49%
	Equal to or greater than 30% but less than 40%		53%
	Equal to or greater than 40% but less than 48%		57%
	Equal to or greater than 48% but less than 60%		61%
	Equal to or greater than 60%		66%

Compositional modifications beyond the minima and maxima specified above for milkfat and dry matter (Table 2) are not considered to be in compliance with section 4.3.3 of the General Standard for the Use of Dairy Terms mentioned in 2.9.

4.11 Veterinary drug residues in the product shall not exceed the limits outlined in GSO standard mentioned in 2.23.

4.12 Microbiological limits shall not exceed the limits outlined in GSO standard mentioned in 2.15.

4.13 Radioactivity levels in the product should not exceed the limits outlined in GSO standard mentioned in 2.14.

4.14 Subject to the maximum levels of contaminants and toxins in the GSO standard mentioned in 2.8, the product shall be free of other contaminants and toxins that are present in quantities that may be hazardous to human health.

4.15 The maximum levels of pesticide residues shall not exceed the limits outlined in the GSO standard mentioned in 2.12.

5. Methods of Sampling

Sampling and analysis shall be performed in accordance with item 2.10 CODEX Standard for Recommended Methods of Analysis and Sampling, in addition to GSO Standard mentioned in 2.21.

6. Packaging, Transport and Storage

6.1 Packaging

The product shall be packaged in appropriate containers in accordance with GOS Standard mentioned in 2.13 and 2.17.

6.2 Transport

The product shall be transported in a medium that prevents mechanical damage and contamination in accordance with GSO mentioned in 2.11.

6.3 Storage

6.3.1 The product shall be stored away from intense light or high-temperature sources in accordance with GSO standard mentioned in 2.11.

6.3.2 The product shall be stored in places with good ventilation.

6.3.3 Storage places shall comply with hygienic requirements and shall be away from contamination sources, particularly pesticides, fertilizers and chemical substances.

7. Labelling

Without prejudice to the provisions of GSO standards mentioned in 2.1, 2.2, 2.9 and 2.20, the following requirements shall be met:

7.1 Name of the product

7.1.1 Cheddar Cheese

7.1.2 The use of the name is an option that may be chosen only if the cheese complies with this standard. Where the name is not used for a cheese that complies with this standard, the naming of the cheese shall be in accordance with the GSO Standard mentioned in 2.9.

7.1.3 For the products in which the fat content is below or above the reference levels, they should be greater than the absolute minimum specified in paragraph 4.10 of this standard. The naming of the product shall be accompanied by a statement or qualification describing the modification made to the fat level (expressed as fat percentage by mass). This qualification shall be part of the name and shall be in a prominent position in the same customer's field of vision. Appropriate qualifiers and characterizing terms described in GSO standard mentioned in 2.9 or nutritional and health claims in accordance with GSO standard mentioned in 2.1 shall be used. ²

7.2 Country of Origin

The country of origin (which means the country of manufacture, not the country in which the name originated) shall be declared. When the product undergoes substantial transformation in a second country³, the country in which the transformation is performed shall be considered to be the country of origin for the purpose of labelling the product.

² For the purpose of comparative nutritional claims, the minimum fat content of 45% constitutes the reference.

³ For instance, repackaging, cutting, slicing, shredding or grating is not regarded as substantial transformation.

7.3 Declaration of milkfat content

The milkfat content shall be declared as follows: as a percentage by mass, or in grams per serving, provided that the number of servings is stated.

7.4 Preservation and storage

7.5 The expiration date shall be in accordance with GSO standard mentioned in 2.6 or 2.7 as appropriate.

7.6 The source of rennet or any other added enzymes.

7.7 If the product is made from powder milk or condensed milk, the statement “made from powder or condensed milk” should be added beside the product name in clear type and in the same size as the product name type.

7.8 Labelling of non-retail containers

Information specified in Section 7 of this Standard, together with product name, lot identification and the name of the manufacturer or packer shall appear either on the container or on the product itself in the absence of such a container. However, lot identification and the name and address may be replaced by an identification mark, provided that such mark is clearly identifiable in the accompanying documents.

Appendix – Additional Information

The additional information below does not affect the provisions of the preceding sections, which are essential to the product identity, the use of the name of the food and the safety of the food.

1. Method of manufacture

1.1 Starter cultures consist of non-gas forming lactic acid producing bacteria.

1.2 After coagulation, the curd is cut and heated in its whey to a temperature above the coagulation temperature. Then, the curd is separated from the whey and stirred or cheddared. In traditional manufacture, the curd is cut into blocks which are turned and progressively piled, keeping the curd warm, which results in the curd becoming compressed, smooth and elastic. After cheddaring, the curd is milled. When the desired acidity is reached, the curd is salted. The curd and salt are then mixed and moulded. Other processing techniques that yield end products with the same physical, chemical and organoleptic characteristics may be applied.

Technical Terms

Cheddar	الشيدر
Ripened	ناضج
Semi-hard	شبه صلب
Firm	صلب
Ripening process	عملية الإنضاج
Cultures	مستتبات
Bleaching agents	عوامل التبييض
Acidity regulators	منظمات الحموضة
Stabilizers	المثبتات
Thickeners	المغلطات
Anti-caking agents	مضادات التكتل
Antioxidants	مضادات الأكسدة
Preservatives	المواد الحافظة
Foaming agents	مكونات الرغوة
Emulsifiers	المستحلبات
Labeling	البيانات الإيضاحية
Hygiene	النظافة
Contaminants	الملوثات

References:

1. GSO 336:2010 Cheddar Cheese
2. CXS 263 General Standard for Cheddar Cheese