

GSO

STANDARDISATION ORGANISATION FOR THE
GULF COOPERATION COUNCIL

DRAFT

OF GULF STANDARD SPECIFICATION

NO. /2006

UPDATE TO GSO 567 / 1994

ALL TYPES OF CHOCOLATE

Compiled by

The Kingdom of Saudi Arabia

K 2087

FOREWORD

This Standard Specification cancels and replaces Gulf Standard Specification No. 567 / 1994 "Cocoa and its products - Chocolate" which was published on 17.3.1995. That Specification was reviewed and some amendments were made to it.

ALL TYPES OF CHOCOLATE

1. The area and scope of application

This Gulf Standard Specification relates to all types of chocolate.

2. Supplementary references

- 2.1 G. S. S. No. 9/1995 "Labelling of packaged foodstuffs".
- 2.2 G. S. S. No. 21/1984 "Hygienic conditions for foodstuff factories and the workers in them".
- 2.3 G. S. S. No. 23/1998 "Colourings used in foodstuffs".
- 2.4 G. S. S. No. 148/1993 "Sugar".
- 2.5 G. S. S. No. 150/1993 "Validity periods for foodstuff products".
- 2.6 G. S. S. No. 323/1994 "General conditions for the transport and storage of chilled and frozen foodstuffs".
- 2.7 G. S. S. No. 382/1994, 383/1994 "The maximum limits for permitted traces of insecticides in foodstuffs - Part One, Part Two".
- 2.8 G. S. S. No. 707/1997 "Permitted flavourings in foodstuffs".
- 2.9 G. S. S. No. 988/1998 "The permitted levels of radiation in foodstuffs - Part One".
- 2.10 G. S. S. No. 989/1998 "Methods of detecting a rise in permitted radiation levels in foodstuffs - Part One: Spectroscopic analysis of gamma radiation (A) - caesium 134 - caesium 137".
- 2.11 G. S. S. No. 1016/1998 "Microbiological limits in foodstuffs - Part One".
- 2.12 G. S. S. authorised by the Organisation relating to the "Methods of testing all types of chocolate".
- 2.13 G. S. S. authorised by the Organisation relating to "Cocoa".
- 2.14 G. S. S. No. 995/1994 relating to "Sweeteners it is permitted to use in foodstuffs".

3. Definitions

- 3.1 Chocolate: Homogenous foodstuff products to which the provisions of Schedule No. (1) apply, prepared in an hygienic and appropriate manner from one or more blends of ground cocoa, or cocoa paste or cocoa mass, or cocoa

powder, including low-fat cocoa powder, and cocoa butter or its substitutes, in addition to permitted optional substances (Clause 4.24), with or without sugar, and of the following types:

- 3.1.1 Sweetened chocolate: Chocolate to which sugar has been added and with a distinctive bitter-sweet taste.
- 3.1.2 Unsweetened chocolate: Chocolate without added sugar and with a distinctive bitter-sweet taste.
- 3.1.3 Plain chocolate: Chocolate to which sugar has been added and with a sweet taste.
- 3.1.4 Milk chocolate: Chocolate to which sugar has been added and milk solids.
- 3.1.5 Milk chocolate with high milk content: Chocolate to which sugar has been added and a high proportion of milk solids.
- 3.1.6 Skimmed milk chocolate: Chocolate to which sugar has been added and skimmed milk solids.
- 3.1.7 Cream chocolate: Chocolate to which sugar has been added and cream and milk solids.
- 3.1.8 Chocolate vermicelli: Chocolate to which sugar has been added, and in the form of short sticks.
- 3.1.9 Milk chocolate vermicelli: Chocolate to which sugar has been added and milk solids, and in the form of short sticks.
- 3.1.10 Chocolate flakes: Chocolate to which sugar has been added, and in the form of flakes or scales.
- 3.1.11 Milk chocolate flakes: Chocolate to which sugar has been added and milk solids, and in the form of flakes or scales.
- 3.1.12 Couverture chocolate: Chocolate to which sugar has been added and suitable for coating purposes.
- 3.1.13 Milk couverture chocolate: Chocolate to which sugar has been added and milk solids, and suitable for coating purposes.
- 3.1.14 Skimmed milk couverture chocolate: Chocolate to which sugar has been added and skimmed milk solids, and suitable for coating purposes.
- 3.2 Other types of chocolate:

These are other types of chocolate to which the provisions of Schedule No. (2) apply, and including the following types:

3.2.1 White chocolate: An homogenous product made from a blend of cocoa butter with dried milk and sugar.

3.2.2 Chocolate with cocoa butter substitutes:

Chocolate to which the provisions of Clause No. 3.1 apply, except that hydrogenated vegetable oils or fats (their melting point is lower than that of cocoa butter) take the place of cocoa butter either partially or totally, but such that they do not exceed 5% of the final product.

3.2.3 Filled chocolate:

A product comprised of an external layer of one of the types of chocolate to which the provisions of Clause 3.1 or 3.2.1 or 3.2.2 apply, and with an internal layer contrasting in composition to the external coating and not containing sweetened flour or pastes or biscuit products and with the chocolate layer of it not comprising less than 25% as a minimum.

3.2.4 Chocolate with nuts:

A chocolate product to which the provisions of Clause No. 3.1 apply to which one or more types of nuts have been added, either whole or in pieces or ground.

3.2.5 Praline chocolate

A product comprising small pieces of filled chocolate or chocolate to which the provisions of Clause No. 3.1 or 3.2.1 or 3.2.2 or 3.2.4 apply, or a mixture of them, in addition to other foodstuff products.

3.2.6 Chocolate discs:

Chocolate to which the provisions of Clause 3.1 or 3.2.1 or 3.2.3 apply, and in the form of small discs coated with a layer of a substance fit for human consumption.

3.2.7 Compounded chocolate:

Chocolate to which the provisions of Clause 3.1 or 3.2.1 or 3.2.2 apply, with the addition of one or more foodstuffs, with the exception of flour and starch and fat, unless it is one of the ingredients it is permitted to add.

3.2.8 Cooking chocolate or domestic chocolate:

This is chocolate to which the provisions of Clause 3.1.3 apply, prepared for cooking or for domestic purposes.

3.2.9 Cooking milk chocolate or domestic milk chocolate:

This is chocolate to which the provisions of Clause 3.1.4 apply, prepared for cooking or for domestic purposes.

SCHEDULE NO. (1)

PROPORTION OF INGREDIENTS FOR KINGS OF CHOCOLATE

(% calculated on the basis of the dry content of the product)

Ingredients	Cocoa butter (minimum)	Fat-free milk solids (minimum)	Total cocoa solids (minimum)	Milk fat (minimum)	Fat-free milk solids (minimum)	Total fat (minimum)	Sugar (minimum)
Product							
Sweetened chocolate	18	14	35				
Unsweetened chocolate	50 to 58						
Plain chocolate	18	12	30				
Milk chocolate		2.5	25	3.5 (minimum)	10.5	25	55
Milk chocolate with high milk content		2.5	20	5 (minimum)	15	25	55
Skimmed milk chocolate		2.5	25	0.5 (maximum)	14	25	55
Cream chocolate		2.5	25	7 (minimum)	3 to 14	25	55
Chocolate vermicelli	12	14	32				
Milk chocolate vermicelli		2.5	20	3.5 (minimum)	10.5	12	66
Chocolate flakes	12	14	32				
Milk chocolate flakes		2.5	20	3.5 (minimum)	10.5	12	66
Couverture chocolate	31	2.5	35				
Milk couverture chocolate		2.5	35	3.5 (minimum)	10.5	31	55
Skimmed milk couverture chocolate		2.5	35	0.5 (maximum)	14	31	55
White chocolate	20			2.5 - 3.5	14		55
Chocolate with cocoa or butter substitutes		2.5				20	58
Chocolate with nuts		8	32				
Cooking or domestic chocolate	18	12	30				
Cooking or domestic milk chocolate		2.5	20	5	15	25	55 (at least)

4. The requirements

All types of chocolate must satisfy the following requirements:

- 4.1 It must be free of rancidity and unpleasant aroma.
- 4.2 It must be homogenous and have a pleasant taste, colour and aroma.
- 4.3 It must be completely free of pork products or its derivatives.
- 4.4 It must be completely free of animal fats or their derivatives (with the exception of milk fat).
- 4.5 It must be free of artificial colourings, with the exception of the covering layer in the case of chocolate discs where it is permitted to use them in accordance with the Saudi Standard Specification referred to in Clause 3.2.
- 4.6 It must be free of extraneous substances and impurities and ethanol.
- 4.7 The residue of insecticides must not exceed that permitted by the Gulf Standard Specification referred to in Clause 2.7.
- 4.8 The levels of radiation in the product must not exceed that permitted by the Gulf Standard Specification referred to in Clause 2.9.
- 4.9 All the ingredients used in the manufacture of it must be in accordance with the standard specifications relating to them.
- 4.10 The production must be carried out in accordance with the Gulf Standard Specification referred to in Clause 2.2.
- 4.11 The proportion of moisture must not exceed 3%.
- 4.12 The total proportion of ash must not exceed 2.5%.
- 4.13 The proportion of aflatoxin (B₁) must not exceed 10 parts per million.
- 4.14 The microbiological limits must be in accordance with the Gulf Standard Specification referred to in Clause 2.11.
- 4.15 The various types of chocolate must meet the ingredients proportions set out in Schedule No. (1).
- 4.16 The proportion of contaminant metallic elements must not exceed the limits set out against each of them (parts per million) as shown in Schedule No. (3 [*sic*]).

SCHEDULE NO. (2)

THE MAXIMUM FOR CONTAMINANT METALLIC ELEMENTS
(parts per million)

Element	All types of chocolate including white chocolate, but with the exception of unsweetened and filled and compound chocolate	Unsweetened chocolate	Filled [and] compound chocolate
Arsenic	0.5	1	1
Copper	15	30	20
Lead	1	2	1

- 4.17 The proportion of chocolate in the outer layer of filled chocolate must not be less than 25% of the total weight.
- 4.18. In the case of chocolate with nuts, the ground element of it must be between 20-40% or a maximum of 60% of a mixture of hazelnuts and almonds and other nuts.
- 4.19 In the case of praline chocolate, the chocolate layer must be completely or partially evident and must not comprise less than 25% of the total weight.
- 4.20 The outer layer of chocolate discs must not exceed 10% of the total weight.
- 4.21 In the case of compound chocolate, it must contain 60% (mass/mass) chocolate and the proportion of added foodstuffs must not exceed 40% separate visible parts, 30% indistinguishable parts.
- 4.22 In the case of dark couverture chocolate, it must contain 16% (mass/mass) fat-free cocoa solids calculated on the basis of the dry weight.
- 4.23 Optional ingredients

It is permitted to add the following types of optional ingredients:

4.23.1 Alkaline and neutralising agents:

In accordance with the Gulf Standard Specification referred to in clause 2.13.

4.23.2 Emulsifiers:

The emulsifiers may be of plant or artificial (foodstuff class) origin but it is not permitted for the proportion of them in the various types of chocolate to exceed the limits indicated against each one in Schedule No. (3).

SCHEDULE NO. (3)

EMULSIFIERS IN DIFFERENT TYPES OF CHOCOLATE

Emulsifiers	Maximum concentration g / kg	Type of chocolate
Mono- and diglycerides of the edible fatty acids	15	All types of chocolate to which the provisions of clause 3.1 apply and white chocolate, to which have been added natural flavouring compounds (and sweetened chocolate and cream chocolate)
Lecithin (insoluble in acetone)	5	Sweetened chocolate and cream chocolate
Ammonium salts for phosphatidic acids	10	Chocolate vermicelli and chocolate flakes and white chocolate
Polycinoleate polyglycerol	5	"
Monostearate sorbitane	10	"
Tristearate sorbitane	10	"
Poly-oxyethylene (20) of monostearate sorbitane	10	"
Total emulsifying agents (individually or together)	15	"

4.23.3 Flavourings

Small suitable amounts may be added to balance the flavour as stipulated for in the Gulf Standard Specification referred to in clause 2.8, with the exception of those which are similar to or imitate the natural taste of the chocolate or milk.

4.23.4 The permitted suitable foodstuffs include such as the following:

Nuts and confections of various kinds, peanuts, coconut, and fruit (dried, concentrated, ...).

Ground roasted coffee or its equivalent as soluble coffee: in a quantity of no less than 1.5% (weight/weight) in the case of coffee chocolate.

Spices and salt flavouring: In small and appropriate quantities to provide balance to the flavour.

Vegetable oil or fat: In a proportion of no more than 5% of the weight of the product.

Milk solids (one or more dried whole milk ingredients): in a proportion of not more 5% (weight/weight) calculated on the basis of the dry weight, for the following types:

Sweetened chocolate, unsweetened chocolate, couverture chocolate, vermicelli chocolate, chocolate flake.

Cream, buttermilk (milk fat), concentrated milk, evaporated milk, condensed milk, skimmed milk, malted milk.

Natural sweeteners (with the exception of white sugar), such as: sugar powder, date sugar, dextrose anhydrate, dextrose monohydrate, glucose syrup, dried glucose syrup, lactose, honey, dextrose powder, fructose, molasses, brown sugar, maple sugar.

4.23.5 Acidity regulators which it is permitted to use: gram / kilogram

Acidity regulator	Maximum
Aluminium carbonate, aluminium oxide, aluminium hydrogen carbonate, calcium carbonate, citric acid, magnesium carbonate, potassium carbonate, potassium hydroxide, potassium hydrogen carbonate, sodium carbonate, sodium hydroxide, sodium hydrogen carbonate, calcium hydroxide.	In accordance with good production standards
Orthophosphoric acid	2.5 g / kg expressed as P ² O ⁵ of the final product for the cocoa and chocolate
Tartaric acid	2.5 g / kg of the final product for the cocoa and chocolate

4.23.6 In the case of the addition of sweeteners to the chocolate:

In accordance with what is stated in clause 2.14.

5. Taking of samples

When samples must be taken, the following must be observed:

- 5.1 The samples must be taken in a place which is not exposed to dust or moisture.
- 5.2 The tools used to take the samples must be clean and dry when they are used.
- 5.3 The sample must be placed in a clean, dry box which is securely fastened and with the full details of the sample taken written on it.

- 5.4 The samples must be stored in a manner which prevents them from being exposed to high temperature and light.
- 5.5 The boxes must be taken at random from the consignment, in accordance with what is stated in Schedule No. (4).

SCHEDULE NO. (4)

TAKING OF SAMPLES OF VARIOUS TYPES OF CHOCOLATE

The total number of boxes in one batch of the consignment	The number of boxes to be selected from each batch	The number of groups into which the boxes taken from one batch are to be divided
Up to 15	2	Nil
16 to 50	3	1
51 to 150	5	2
151 to 500	8	3
501 to 3,200	13	4
3,201 and greater	20	5

6. Methods of examining and testing

When a representative sample has been taken in accordance with the provisions of clause 5 above, all the tests must be carried out on it to determine the extent to which it conforms to all the stipulations of this specification, in accordance with the Gulf Standard Specification referred to in clause 2.12.

7. Packing, transport and storage

In packing, transport and storage, the following provisions must be complied with:

7.1 Packing

7.1.1 Chocolate of various types must be packed in appropriate hygienic boxes which are clean and free of any smells, and which are securely fastened and made of materials which will not affect its properties.

7.1.2 The boxes must be provided with protection and the contents kept safe from damage or external environmental factors.

7.2 Transport and storage:

The transport and storage must be carried out in accordance with the provisions of the Gulf Standard Specification referred to in clause 2.6.

8. Clarificatory information

Without prejudice to what is stipulated for in the Gulf Standard Specification referred to in clause 2.1, the following information must be stated on the box:

- 8.1 The type of chocolate: As stated in clause 3.
- 8.2 The optional ingredients.
- 8.3 The minimum proportion of cocoa solids and milk solids.
- 8.4 A declaration that it is completely free of pork products or their derivatives.
- 8.5 The date of production and the date of expiry.
- 8.6 If the products are packed in boxes with a weight of 10 kilograms or more and are not for retail sale, there should be written on the box the type of product, the quantity and the name and address of the packer. Any other additional information may be provided in accompanying documentation.
- 8.7 In the case of retail sale in small pieces with an area of less than 10 cm², the product information must be shown on the display label or directly next to it. It is not permitted to sell pieces of chocolate with an individual weight of less than 20 grams unless they are packed in suitable boxes on which the label information is shown, as stipulated in the Gulf Standard Specification referred to in clause 2.1.
- 8.8 At least the name of the manufacturer and the date of production and date of expiry must be printed on the small box by the manufacturer, but it is not made a condition that the remainder of the label details be written there. For all types of chocolate it is permitted not to state the net weight of a small piece which weighs less than 25 grams.
- 8.9 In the case of chocolate with cocoa butter substitutes, the names of the cocoa butter substitutes should be stated, or the total (blend of vegetable oils), and this must be shown in clear type.
- 8.10 In the case of filled chocolate, the type of filler must be stated together with the percentage of the chocolate outer layer.
- 8.11 In the case of praline chocolates, the percentage of chocolate as a proportion of the total weight must be stated.

- 8.12 In the case of chocolate discs, the proportion of the outer layer must be stated as a percentage of the total weight of the product.
- 8.13 In the case of couverture chocolate, milk couverture chocolate and skimmed milk couverture chocolate, the cocoa butter content in it must be stated.

TECHNICAL TERMINOLOGY

*[English]**[Arabic]*

Cream chocolate

Cream chocolate

Milk chocolate

Milk chocolate

Skimmed milk chocolate

Skimmed milk chocolate

Milk chocolate with high milk content

Milk chocolate with high milk content

Couverture chocolate

Couverture chocolate

Milk couverture chocolate

Milk couverture chocolate

Skimmed milk couverture chocolate

Skimmed milk couverture chocolate

Sweetened chocolate

Sweetened chocolate

Chocolate flakes

Chocolate flakes

Milk chocolate flakes

Milk chocolate flakes

Chocolate vermicelli

Chocolate vermicelli

Milk chocolate vermicelli

Milk chocolate vermicelli

Unsweetened chocolate

Unsweetened chocolate

(Plain) chocolate

Plain chocolate

Fat-free milk solids

Fat-free milk solids

Fat-free cocoa solids

Fat-free cocoa solids

Total cocoa solids

Total cocoa solids

*[English]**[Arabic]*

REFERENCE

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MAIN REFERENCES

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