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**Draft COMESA/East African Standard**

**Sweetened condensed milk — Specification**

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## Table of contents

1	Scope.....	1
2	Normative references.....	1
3	Definitions .....	2
3.1	sweetened condensed milk.....	2
3.2	sugar .....	2
4	Requirements.....	2
4.1	Raw materials .....	2
4.2	Permitted ingredients.....	2
4.3	Additives .....	2
4.3	Texture.....	2
4.4	Flavours .....	2
4.5	Other requirements .....	2
5	Contaminants.....	3
5.1	Heavy metals .....	3
5.2	Aflatoxin .....	3
5.2	Pesticide residues.....	3
5.3	Veterinary residues .....	3
6	Hygiene.....	3
7	Packaging .....	4
8	Labelling.....	4
9	Methods of sampling.....	5

## **Foreword**

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## Sweetened condensed milk — Specification

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### 1 Scope

This COMESA/East African Standard prescribes the requirements, methods of sampling and test for sweetened condensed milk.

### 2 Normative references

The following referenced standards are indispensable for the application of this COMESA/East African Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced standard (including any amendments) applies.

Codex Alimentarius Commission pesticides residue limits

CAC/MRL 02-2006, Maximum residue limits for veterinary drugs in foods

CAC/RCP 57, Code of hygiene practice for milk and milk products

CODEX STAN 1: General standard for the labeling of prepackaged foods

CODEX STAN 192-1995, Codex general standard for food additives

CODEX STAN 193-1995: Codex general standard for contaminants and toxins in foods

ISO 1737, Evaporated milk and sweetened condensed milk -- Determination of fat content -- Gravimetric method (Reference method)

ISO 2446, Milk — Determination of fat content (Routine method)

ISO 4832, Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of coliforms -- Colony-count technique

ISO 4833: Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms — Colony-count technique at 30 °C

ISO 5538, Milk and milk products — Sampling — Inspection by attributes

ISO 6734: Sweetened condensed milk — Determination of total solids content (reference method)

ISO 6611: Milk and milk products — Enumeration of colony-forming units of yeasts and/or moulds — Colony-count technique at 25 °C

ISO 8197, Milk and milk products — Inspecting sampling — Inspection by variables

ISO 6888: Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species)

ISO 8968- Milk — Determination of nitrogen content - Kjeldahl Method

ISO 11866, Milk and milk products — Enumeration of presumptive *Escherichia coli*

ISO 8197, Milk and milk products — Inspecting sampling — Inspection by variables

ISO 14501, Milk and milk powder — Determination of aflatoxin M1 content — Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography

### 3 Definitions

For the purpose of this standard, the following definition shall apply:

#### 3.1 sweetened condensed milk

milk product which can be obtained by the partial removal of water from milk with the addition of sugar, or by any other process which leads to a product of the same composition and characteristics.

#### 3.2 sugar

Any carbohydrate sweetening matter

### 4 Requirements

#### 4.1 Raw materials

Milk and milk powder, cream and cream powder, milkfat products

The following milk products are allowed for protein adjustment purposes:

- **milk retentate**: the product obtained by concentrating milk protein by ultrafiltration of milk, partly skimmed milk, or skimmed milk;
- **milk permeate**: the product obtained by removing milk proteins and milkfat from milk, partly skimmed milk, or skimmed milk by ultrafiltration; and

#### 4.2 Permitted ingredients

- lactose(Also for seeding purposes)
- Potable water
- Sugar
- Food grade salt.

In this product, sugar is generally considered to be sucrose, but a combination of sucrose with other sugars, consistent with Good Manufacturing Practice, may be used.

#### 4.3 Additives

Only those food additives specified in *CODEX STAN 192-1995* and in levels specified therein shall be used.

#### 4.3 Texture

Sweetened condensed milk shall have a smooth uniform texture and when reconstituted by the addition of the appropriate amount of water shall yield a product uniform in consistency.

#### 4.4 Flavours

Condensed milk shall be free from rancidity, objectionable flavours and odours.

#### 4.5 Other requirements

Sweetened condensed milk shall also comply with the requirements prescribed in Table 1.

Table 1 — Requirements for condensed milk

	<i>Sweetened condensed milk</i>	<i>Sweetened condensed skimmed milk</i>	<i>Sweetened condensed partly skimmed milk</i>	<i>Sweetened condensed high-fat milk</i>	Methods of test
Minimum milkfat	8% m/m	1% m/m	More than 1% and less than 8% m/m	16% m/m	ISO 1737
Minimum milk solids**	28% m/m	24% m/m	24% m/m		ISO 6734
Minimum milk protein in milk solids-not-fat**	34% m/m	34% m/m	34% m/m	34% m/m	ISO 8968
Milk solids not fat	—	—	20% m/m	14% m/m	—

\*\* The milk solids and milk solids-not-fat content include water of crystallization of the lactose.

For all sweetened condensed milks the amount of sugar is restricted by Good Manufacturing Practice to a minimum value which safeguards the keeping quality of the product and a maximum value above which crystallization of sugar, may occur.

## 5 Contaminants

### 5.1 Heavy metals

The products covered by this standard shall comply with the maximum limits specified in CODEX STAN 193-1995

### 5.2 Aflatoxin

When determined in accordance with ISO 14501, Sweetened condensed milk shall not contain more than 0.5ppb of aflatoxin M1

### 5.2 Pesticide residues

The products covered by this standard shall comply with the maximum residue limits established by the Codex Alimentarius Commission.

### 5.3 Veterinary residues

The products covered by this Standard shall comply with the maximum residue limits specified in CAC/MRL 2-2006

## 6 Hygiene

6.1 The products covered by the provisions of this standard shall be prepared and handled in accordance with CAC/RCP 57, Code of hygienic practice for milk and milk products.

**Note:** Reference to CAC/RCP 57 does not mean an endorsement of the use of lactoperoxidase system as a means of preservation of raw milk as contained therein.

**6.2** From raw material production to the point of consumption, the products covered by this standard should be subject to a combination of control measures, which may include, for example, pasteurisation, and these should be shown to achieve the appropriate level of public health protection.

**6.3** The products shall comply with microbiological limits in Table 2.

**Table 2 — Microbiological limits**

Characteristic	Limit (cfu/ml)	Method of test
Total plate count, max.	20	ISO 4833
Coliform, max.	10	ISO 4832
<i>E. coli</i>	Absent/1ml	ISO 11866
<i>Staphylococci</i> (coagulase positive)	Absent/1 ml	ISO 6888
Yeasts and moulds, max	10	ISO 6611

## 7 Packaging

The product shall be packaged in hermetically sealed, clean food-grade containers in such a way as to protect it from contamination and deterioration.

## 8 Labelling

**8.1** The containers shall be labelled in accordance with the provisions of the *Codex STAN 1-1985*. In addition the following particulars shall be labelled on the container

- i) directions for reconstitution of dried milks shall be given.
- ii) process of manufacture (spray dried or roller dried).
- iii) date of manufacture.
- iii) not suitable for infants.

### 8.2 Name of the product

The name of the product shall be:

- Sweetened condensed milk
- Sweetened condensed skimmed milk
- Sweetened condensed partly skimmed milk
- Sweetened condensed high-fat milk

Sweetened condensed partly skimmed milk may be designated “sweetened condensed semi-skimmed milk” if the milkfat content is 4.0 — 4.5% and the minimum milk solids is 28% m/m.

### 8.3 Milk Fat Content

The milk fat content shall be declared as:

- (i) percentage by mass or volume, or
- (ii) in grams per serving, provided that the number of servings is stated.

**8.4 Milk Protein** — Milk protein content shall be declared as:

## Draft COMESA/East African Standard

- (i) a percentage by mass or volume, or
- (ii) grams per serving provided that the number of servings is stated.

**8.5 List of Ingredients** — Milk products used for protein adjustment shall be declared.

**8.6** name and physical address of the manufacturer or packer;

**8.7** lot identification, batch, or code number;

**8.8** storage conditions;

**8.9** expiry date; and

**8.10** country of origin.

## **9 Methods of sampling**

For the purpose of determining the compliance to this standard, sampling shall be done in accordance with ISO 5538 and ISO 8197

## **10 Fill of the container**

The fill of the container shall be in accordance with the respective regulations of Weights and Measures. The condensed milk shall occupy not less than 90 % v/v of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20 °C, which the sealed container will hold when completely filled.