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DRAFT EAST AFRICAN STANDARD

Sweetened condensed milk — Specification

EAST AFRICAN COMMUNITY

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Copyright notice

Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 017, *Milk and milk products*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

This second edition cancels and replaces the first edition (EAS 87: 2018), which has been technically revised.

Sweetened condensed milk — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for sweetened condensed milks, intended for direct consumption or further processing.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

AOAC 986.15, *Official method for Arsenic, Cadmium, Lead, Selenium and Zinc in human and pet foods*

AOAC 999.10, *Official method for lead, cadmium, zinc, copper, and iron in foods Atomic absorption Spectrophotometry after microwave Digestion*

CAC/RCP 1, *General principles for food hygiene*

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

CODEX STAN 192, *Codex general standard for food additives*

EAS 12, *Potable water — Specification*

EAS 5, *Refined white sugar — Specification*

EAS 49, *Milk powders and cream powder — Specification*

EAS 69, *Pasteurized milk — Specification*

ISO 707, *Milk and milk products — Guidance on sampling*

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

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

ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 degrees C by the pour plate technique*

ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.*

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

ISO 6731, *Milk, cream and evaporated milk — Determination of total solids content (Reference method)*

ISO 6734, *Sweetened condensed milk Determination of total solids content (Reference method)*

ISO 6888-3, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 3: Detection and MPN technique for low numbers*

ISO 8294, *Animal and vegetable fats and oils — Determination of copper, iron and nickel contents — Graphite furnace atomic absorption method*

ISO 8968-1, *Milk and milk products — Determination of nitrogen content — Part 1: Kjedahl principle and crude protein*

ISO 11866-1, *Milk and milk products — Enumeration of presumptive Escherichia coli — Part 1: Most probable number technique using 4-methylumbelliferyl-beta-D-glucuronide (MUG)*

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
sweetened condensed milk
milk products 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
milk retentate
product obtained by concentrating milk protein by ultrafiltration of milk, partly skimmed milk, or skimmed milk;

3.3
milk permeate
product obtained by removing milk proteins and milk fat from milk, partly skimmed milk, or skimmed milk by ultrafiltration

4 Requirements

4.1 Raw materials

In manufacturing sweetened condensed milk the following raw materials shall be used:

a) milk and milk products complying with EAS 49 powdered milk and EAS 69 for pasteurized milk;

b) milk, cream and cream powder, milk powder, milk fat products, when used, complying with specific East African Standard".

c) water shall comply with EAS 12;

d) sugar shall comply with EAS 5; and

e) sodium chloride.

4.2 Ingredients

The following milk products are allowed for protein adjustment purposes:

a) milk retentate;

b) milk permeate; and

c) lactose.

4.3 General requirements

Sweetened condensed milks shall:

a) be clean and obtained from a healthy cow;

b) have normal organoleptic characteristics; and

c) have a smooth uniform texture.

4.4. Specific requirements

Sweetened condensed milks shall comply with specific requirements given in Table 1 when tested in accordance with test methods specified therein.

Table 1 — Specific requirements for sweetened condensed milks

S/N	Characteristics	Requirement				Test method
		Sweetened condensed milk	Sweetened condensed skimmed milk	Sweetened condensed partly skimmed milk	Sweetened condensed high-fat milk	
i.	Milkfat, %, m/m	8(min.)	1(min.)	1 - 8	16(min.)	ISO 1737
ii.	Milk solids*,%, m/m, min.	28	24	24	-	ISO 6734
iii.	Milk protein in milk solids-not-fat*,%, m/m, min.	34	34	34	34	ISO 8968-1
iv.	Milk Solids-Not-Fat*, min.	-	-	20	14	ISO 6731
* The milk solids and milk solids-not-fat content include water of crystallization of the lactose.						

4.5 Microbiological limits

Sweetened condensed milk shall comply with microbiological limits given in Table 2 when tested in accordance with test methods specified therein.

Table 2 — Microbiological limits for sweetened condensed milks

Characteristic	Maximum limits	Test method
Total plate count, CFU/g	10^3	ISO 4833-1
Total Coliform, CFU/g	10	ISO 4832
E. coli, CFU/g	Absent	ISO 11866-1
Staphylococcus aureus, g	Absent	ISO 6888-3
Yeasts and moulds, CFU/g	10	ISO 6611
Salmonella spp, per 25g	Absent	ISO 6579-1

5 Contaminants

5.1 Pesticide residues

Sweetened condensed milk shall conform to maximum limits residues set by Codex Alimentarius Commission.

5.2 Veterinary drugs residues

Sweetened condensed milk shall conform to maximum tolerable residue limits for antibiotics and other veterinary drugs set by Codex Alimentarius Commission.

5.3 Heavy metals

Sweetened condensed milk shall comply with maximum limits given in Table 3 when tested in accordance with test methods specified therein.

Table 3 — Maximum limits of heavy metals in sweetened condensed milks

S/N	Heavy metals	Limits mg/kg	Test method
i.	Iron (Fe)	0.2	ISO 8294
ii.	Copper (Cu)	0.05	
iii.	Lead (Pb)	0.02	AOAC 999.10
iv.	Cadmium (Cd)	0.02	
v.	Arsenic (As)	0.1	AOAC 986.15

5.4 Mycotoxin

The level of Aflatoxin M1 shall not exceed 0.50 µg/l in accordance with ISO 14501.

6 Hygiene

Sweetened condensed milk shall be produced and handled in accordance with CAC/RCP 57 and CAC/RCP 1.

7 Food additives

Food additives may be used and shall comply with CODEX STAN 192.

8 labelling

The containers shall be labelled in compliance with the requirements of EAS 38 and EAS 803. In addition, the following particulars shall be legibly and indelibly labelled on the container:

a) name of the product as “Sweetened condensed milk”;

b) net content in SI units;

c) name and physical address of manufacturer;

d) batch or code number;

e) nutritional information;

f) the date of manufacture and expiry date;

g) instruction for storage and use; and

h) country of origin.

9 Sampling

Sampling of sweetened condensed milk shall be done in accordance with ISO 707.

