



DRAFT TANZANIA STANDARD

Sweetened condensed milk – Specification

DRAFT STANDARD FOR PUBLIC COMMENTS ONLY

Sweetened condensed milk – Specification

0 FOREWORDS

This standard has been prepared to ensure safety and quality of sweetened condensed milk produced or traded in the country for human consumption.

In the preparation of this Tanzania standard considerable assistance was drawn from EAS 87:2007, *Sweetened condensed milk – Specification*; published by the East African Community.

In reporting, the results of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4 (see clause 2).

1.0 SCOPE

This Tanzania standard prescribes the requirements, methods of sampling and test for sweetened condensed milk produced for human consumption.

2.0 REFERENCES

For the purpose of this Tanzania standard, the following references shall apply. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies:

TZS 4 – Rounding off numerical values

TZS 109 – Food processing units – code of hygiene

TZS 112 – Milk – Production, processing, transportation and distribution – code of hygiene.

TZS 122 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella* spp.

TZS 124 - Milk and milk products – sampling for microbiological examination.

TZS 131 – Microbiology - General guidance for enumeration of yeast and moulds – Colony count technique at 25 °C.

TZS 441 – Fermented milks – Determination of titratable Acidity – Potentiometric method.

TZS 538, Labelling of pre-packaged foods — General requirements

TZS 852-2 – Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Listeria monocytogenes* - Enumeration method (Identical to ISO 11290-2)

TZS 731 – Microbiology of food and feeding stuffs – Horizontal method for detection and enumeration of presumptive *Escherichia coli* – Most Probable Number Technique

Codex Stan 193 – Codex General Standard for Contaminants and Toxins in Food and Feed

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

ISO 14674 - Milk and milk powder -- Determination of aflatoxin M1 content -- Clean-up by immunoaffinity chromatography and determination by thin-layer chromatography

CAC/MRL 2 - Maximum Residue Limits (MRLs) and Risk Management Recommendations (RMRs) for Residues of Veterinary Drugs in Foods.

3.0 TERMS AND DEFINITIONS

For the purpose of this standard, the following terms and definitions shall 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

the product obtained by concentrating milk protein by ultrafiltration of milk, partly skimmed milk, or skimmed milk.

3.3 milk permeate

the product obtained by removing milk proteins and milkfat from milk, partly skimmed milk, or skimmed milk by ultrafiltration.

4.0 REQUIREMENTS

4.1 General requirements

4.1.1 Raw materials

- a) Milk and milk powder, cream and cream powders, milkfat products.
- b) Water
- c) Sugar
- d) Sodium chloride (salt)
- e) Optional ingredients including milk retentate, milk permeate and lactose may be used.

4.1.2 Condensed milk shall;

- a) be free from rancidity, objectionable flavours, colours and odours.
- b) have a smooth uniform texture and when reconstituted by the addition of the appropriate amount of water shall yield a product uniform in consistency.

4.2 Specific requirements

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

Table 1: Requirements for condensed milk

Sweetened condensed milk	Requirements	Methods of test
Minimum milkfat	8% m/m	ISO 1737
Minimum milk solids**	28% m/m	
Minimum milk protein in milk solids-not-fat**	34% m/m	ISO 8968
Sweetened condensed skimmed milk		
Maximum milkfat	1% m/m	ISO 1737
Minimum milk solids**	24% m/m	
Minimum milk protein in milk solids-not-fat**	34% m/m	ISO 8968

Sweetened condensed partially skimmed milk		
Milkfat	1- 8% m/m	ISO 1737
milk solids-not-fat**	20%	
Minimum milk solids**	24% m/m	
Minimum milk protein in milk solids-not-fat**	34% m/m	ISO 8968
Sweetened condensed high-fat milk		
Minimum milkfat	16% m/m	ISO 1737
Minimum milk solids-not-fat**	14% m/m	
Minimum milk protein in milk solids-not-fat**	34% m/m	ISO 8968
The titratable acidity (as lactic acid) per cent (m/m) shall not exceed 0.32 when tested in accordance with TZS 441.		
**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.

4.3 Food additives

The permitted food additives listed below may be used to the level prescribed in Table 2.

Table 2: List of permitted preservatives and levels of use

INS no.	Name of additive	Maximum level
Firming agents		
508	Potassium chloride	2 g/kg singly or 3 g/kg in combination, expressed as anhydrous substances
509	Calcium chloride	
Stabilizers		
331	Sodium citrates	2 g/kg singly or 3 g/kg in combination, expressed as anhydrous substances
332	Potassium citrates	
333	Calcium citrates	
Acidity regulators		
170	Calcium carbonates	2 g/kg singly or 3 g/kg in combination, expressed as anhydrous substances
339	Sodium phosphates	
340	Potassium phosphates	
341	Calcium phosphates	
450	Diphosphates	
451	Triphosphates	
452	Polyphosphates	
500	Sodium carbonates	
501	Potassium carbonates	

Thickener		
407	Carrageenan	150 mg/kg
Emulsifier		
322	Lecithins	Limited by GMP

Note: If there will be changes in the Codex standards regarding the use of food additives in Sweetened condensed milk the new Codex guidelines will prevail.

5.0 CONTAMINANTS

5.1 Sweetened condensed milk shall comply with the current maximum limits for contaminants in Codex Stan 193 and the current maximum residue limits for pesticides and veterinary drugs established in the CAC/MRL 2.

5.2 Aflatoxins

sweetened condensed milks shall not contain aflatoxin M1 not more than 0.5 µg/kg when tested in accordance with ISO 14674.

6.0 HYGIENE

6.1 Sweetened condensed milk shall be prepared under strict hygienic conditions according to TZS 109 and TZS 112 (See clause 2).

6.2 Sweetened condensed milk samples tested shall not contain microbiological count more than the level prescribed in Table 3.

Table 3: Microbiological requirements

S/No.	Microorganisms	Requirements	Methods of test (see clause 2)
i)	<i>Total count, cfu/g, max.</i>	10 ⁵	TZS 118
ii)	<i>Escherichia coli, cfu/g</i>	Absent	TZS 731
iv)	<i>Salmonella spp</i> per 25g, cfu/g	Absent	TZS 122
v)	Yeast and Moulds, cfu/ml, max.	10	TZS 131

7.0 SAMPLING AND TESTS

7.1 Sampling

Sampling of sweetened condensed milk shall be done according to TZS 124 (see clause 2).

7.2 Tests

Testing of sweetened condensed milk shall be done according to test methods prescribed in Tables 1 and 3.

8.0 PACKAGING, MARKING AND LABELLING

8.1 Packaging

sweetened condensed milk shall be packed in approved clean and safe food grade containers recommended for sweetened condensed milk package.

8.2 Marking and labelling

In addition to marking and labelling requirements prescribed in TZS 538, sweetened condensed milk containers shall be also legibly and indelibly marked with the following:

- a) The name of the product shall be:
 - sweetened condensed milk
 - sweetened condensed skimmed milk
 - sweetened condensed partially skimmed milk
 - sweetened condensed high-fat milk
- b) List of ingredients
- c) Declaration of milk protein
- d) Declaration of milk fat
- e) Net contents in metric unit
- f) Name and address of the manufacturer, packer, distributor, importer, exporter or vendor, shall be declared.
- g) Country of origin.
- h) Date of manufacture
- i) Expiry date
- j) Storage conditions
- k) Instruction on how to use
- l) Lot identification;/batch number

The language on the label shall be “Kiswahili” or Kiswahili and English. Additional language may be used depending on the designated market.

8.3 The container may also be marked with TBS Certification Mark.

NOTE – The TBS Standards Mark of Quality may be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licenses are granted may be obtained from TBS.