
Draft COMESA/East African Standard

Pasteurized milk — Specification

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Foreword

Pasteurized milk — Specification

1 Scope

This COMESA/East African Standard specifies requirements, methods of sampling and test for pasteurised liquid milk offered for sale and intended for human consumption.

2 Normative references

The following referenced standards are indispensable for the application of this 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 hygienic practice for milk and milk products

CODEX STAN 1, General standard for the labelling of prepackaged foods

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

ISO 2446, Determination of fat content (Routine method)

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

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

ISO 5538, Milk and milk products — Inspecting sampling — Inspection by attributes

ISO 5764, Milk — Determination of freezing point — Thermistor cryoscope method

ISO/TS 6090, Milk and dried milk, butter milk, and butter milk powder, whey and whey powder — Determination of phosphatase activity

ISO 6731, Milk, cream and evaporated milk — Determination of total solids content

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

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

3 Definitions

For the purpose of this standard the following definitions shall apply:

3.1 raw liquid milk

means the normal, clean and fresh secretions, without any addition or subtraction, extracted from the udder of a healthy cow, and free from colostrum, i.e. excluding that got during the first seven days after calving.

3.2 pasteurisation

a heat treatment process applied to a product with the object of eliminating possible health hazards arising from pathogenic micro-organisms associated with milk with minimal chemical, physical and organoleptic changes in the milk

3.3 pasteurised milk

milk which has been subjected to pasteurisation

4 Pasteurization process

4.1 Milk shall be pasteurised using any of the following methods:

4.1.1 Batch method

The temperature of milk shall be raised to not less than 65 °C and retained at this temperature for at least 30 minutes and immediately and rapidly cooled to 4°C or less.

4.1.2 High temperature short time method (HTST)

The temperature of milk shall be raised to not less than 73°C and retained at this temperature for at least 16 seconds and immediately and rapidly cooled to a temperature of 4 °C or less.

4.1.3 Flash pasteurization

The temperature of milk shall be raised to not less than 80 °C and retained at this temperature for at least 10 seconds and immediately and rapidly cooled to 4 °C or less.

5 Requirements for pasteurized milk

5.1 Milk shall not contain added water. When determined in accordance with ISO 5764, the freezing point depression of milk shall be not less than 0.525 °C and not more than 0.550 °C.

5.2 Milk shall not contain any preservatives or other added substances.

5.3 Pasteurised milk shall also comply with chemical requirements in Table 1.

Table 1 — Chemical requirements for pasteurized liquid milk

	Whole milk	Fat reduced milk	Low fat milk	Fat free	Test methods
Milk fat %	3.25 min	1.51% - 3.24%	0.51% - 1.50%	0.50% max	ISO 2446
Milk solids not fat (%min)	8.5	8.5	8.5	8.5	ISO 6731

5.4 Density of milk

The density of milk measured at 20 °C shall be not less than 1.028 g/ml and not more than 1.036 g/ml.

5.5 When determined according with ISO/TS 6090, pasteurised milk shall give a negative phosphatase test immediately after heat treatment and shall have not more than 0.17% titratable lactic acid.

5.6 Homogenisation

Whole milk, fat reduced milk/skimmed milk and low fat milk maybe homogenised.

5.7 Vitamins and minerals

Vitamins and minerals may be added.

6 Contaminants

6.1 Heavy metals

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

6.2 Pesticide residues

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

6.3 Veterinary Drug Residues

The products covered by this Standard shall comply with the maximum residue limits specified in *CAC/MRL 02-2006*

7 Microbiological Limits

7.1 Pasteurised milk shall be free from pathogenic micro organisms and their toxins

7.2 The microbiological limits for pasteurised milk shall be as indicated in Table 2 below.

Table 2 — Microbiological limits for pasteurised milk

Micro-organism	Maximum level (cfu/ml)	Method of test
Total plate count	30 000	ISO 4833
Total Coliforms	10	ISO 4832
<i>Escherichia coli</i>	Absent	ISO 11866

7 Hygiene

Milk shall be produced, processed and handled in accordance with CAC/RCP 57.

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

8 Packaging

Pasteurised liquid milk shall be packaged in properly sealed, safe, food grade sanitised packaging materials. The product when marketed shall be packaged in well-sealed packaging materials in order to prevent spoilage or contamination of the product.

9 Labelling

The containers shall be labelled in accordance with the provisions of the *CODEX STAN 1-1985*. In addition, the following particulars shall be legibly and indelibly labelled on the container:

- 9.1 pasteurized milk.
- 9.2. the date of manufacture and expiry date.
- 9.3 storage instructions
- 9.4 the product category and butterfat content in the milk.
- 9.5 “not suitable for feeding for infants below 12 months”

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 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.