

DRAFT UGANDA STANDARD

First Edition
2018-mm-dd

Pasteurised milk — Specification



Reference number
DUS DEAS 69: 2018

Compliance with this standard does not, of itself confer immunity from legal obligations

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National foreword

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Draft Uganda Standards adopted by the Technical Committee are widely circulated to stakeholders and the general public for comments. The committee reviews the comments before recommending the draft standards for approval and declaration as Uganda Standards by the National Standards Council.

This Draft Uganda Standard, DUS DEAS 69:2018, *Pasteurised milk — Specification*, is identical with and has been reproduced from an East African Standard, EAS 69:2018, *Pasteurised milk Pasteurised milk — Specification*, and is being proposed for adoption as a Uganda Standard.

This standard was developed by Food and agriculture Standards Technical Committee (UNBS/TC 2).

Wherever the words, "East African Standard " appear, they should be replaced by "Uganda Standard."



DEAS 69: 2018

ICS 67.100.10

HS 0401.20.00

DRAFT EAST AFRICAN STANDARD

Pasteurised milk — Specification

EAST AFRICAN COMMUNITY

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DRAFT FOR COMMENTS

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 EAS/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 third edition cancels and replaces the second edition (EAS 69: 2007), which has been technically revised.

Pasteurised milk — Specification

1 Scope

This Draft East African Standard specifies requirements, sampling and test methods for pasteurized milk.

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 946.04, *Official method for Phosphatase (residual) in ice cream and frozen desserts*

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*

EAS 38, *Labelling of pre-packaged foods — General requirements*

EAS 803, *Nutrition labelling — Requirements*

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

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

ISO 2446, *Milk — Determination of fat content*

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 5764, *Milk — Determination of freezing point — Thermistor cryoscope method (Reference method)*

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 6731, *Milk, cream and evaporated 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 10560, *Milk and Milk products — Detection of Listeria monocytogenes*

ISO 11816-1, *Milk and milk products — Determination of alkaline phosphatase activity — Part 1: Fluorimetric method for milk and milk-based drinks*

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

3 Terms and definitions

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

- 3.1 cow milk**
normal, clean and fresh secretion extracted from the udder of a healthy cow, but excluding that obtained during the first seven days after calving
- 3.2 pasteurized milk**
milk which has been subjected to pasteurization either by batch method, flash pasteurization or High Temperature Short Time method (HTST)
- 3.3 batch method**
temperature of milk raised to not less than 65 °C and retained at this temperature for at least 30 min and immediately and rapidly cooled to 10 °C or less
- 3.4 High Temperature Short Time method (HTST)**
temperature of milk raised to not less than 72 °C and retained at this temperature for at least 15 sec and immediately and rapidly cooled to a temperature of 10 °C or less
- 3.5 flash pasteurization**
temperature of milk raised to not less than 80 °C and retained at this temperature for at least 10 sec and immediately and rapidly cooled to 10 °C or less.

4 Requirements

4.1 General requirements

Pasteurized milk shall:

- a) be processed without affecting the composition of the product;
- b) have characteristic texture and colour; and
- c) be free from preservatives, off-flavours and odour

4.2 Specific requirements

Pasteurized milk shall comply with specific requirements given in Table 1 when tested in accordance with test methods specified therein.

Table 1 — Specific requirements for Pasteurized milk

S/N	Characteristic	Whole milk	Fat reduced milk	Low fat milk	Fat free	Test method
i.	Milk fat, %	3.25 (min.)	1.51 – 3.24	0.50 – 1.50	0.50 (max.)	ISO 2446
ii.	Milk Solids Not Fat, %, min.	8.5	8.5	8.5	8.5	ISO 6731
iii.	Freezing point, °C	-0.550 to -0.525	-0.550 to -0.525	-0.550 to -0.525	-0.550 to -0.525	ISO 5764
iv.	Density at 20 °C, g/ml	1.028 - 1.036	1.028 - 1.036	1.028 - 1.036	1.028 - 1.036	Annex A
v.	Phosphatase	negative	negative	negative	negative	ISO 11816-1

4.3 Microbiological limits

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

Table 2 — Microbiological limits for pasteurized milk

S/N	Micro organism	Maximum limits	Test method
i.	Total plate count, CFU/ml	30 000	ISO 4833-1
ii.	Total Coliforms, CFU/ml	10	ISO 4832
iii.	<i>E. coli</i> , CFU/ml	Absent	ISO 11866-1
iv.	<i>Listeria monocytogenes</i> , CFU/ml	Absent	ISO 10560
v.	<i>Salmonella Spp</i> , per 25 ml	Absent	ISO 6579-1
vi.	<i>Mycobacterium tuberculosis</i> , per CFU/ml	Absent	To be defined
vii.	<i>Staphylococcus aureus</i> per ml	Absent	ISO 6888-3

6 Contaminants

6.1 Pesticide residues

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

6.2 Veterinary drugs residues

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

6.3 Heavy metals

When tested in accordance with AOAC 999.10, the level of Lead (Pb) shall not exceed 0.02 mg/kg.

6.4 Mycotoxin

When tested in accordance with ISO 14501 the level of Aflatoxin M1 shall not exceed 0.50 µg/kg.

7 Hygiene

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

8 Packaging

Pasteurized milk shall be packaged in safe, food grade, and sanitized containers. The product when marketed shall be packaged in well-sealed containers in order to prevent spoilage or contamination.

9 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 "Pasteurised milk";
- b) fat content;
- c) net content in SI units;
- d) name and physical address of manufacturer;
- e) batch or code number;
- f) nutritional information;
- g) the date of manufacture and expiry date;
- h) instruction for storage and use; and
- i) country of origin.

10 Sampling

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

Annex A (normative)

Determination of Density in milk

A.1 General

The density is a relationship between the body mass and the volume this body occupies in the space. The density test is performed in order to be used in the detection of adulteration in the milk since, the addition of water only would cause the decrease in density, whereas the skimming(fat removal) would cause an increased density in the milk, beside supplying important information for the determination of the total dry extract.

A.2 Equipment

The following equipment shall be used:

- a) Thermolactodensimeter (TLD)
- b) Test tube (250 mL)

A.3 Methods

The density determination is accomplished by the Thermolactodensimeter because the practicability of this method.

A.4 Procedure

A.4.1 Place the sample to be analyzed in the clean and dry test tube by taking the care of inclining the test tube and allowing the liquid to flow down the walls of the glass for avoiding the incorporation of the air which would reduce the density of the milk;

A.4.2 Immense TLD into the test tube and make it rotate slowly on its own axis;

A.4.3 Perform the reading of both density and temperature of the milk as soon as TLD stabilizes;

A.4.4 Proceed to the correction of the influence from the temperature, by using an adequate scale. The result will correspond to the corrected milk density.

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