

Pasteurized goat milk — Specification

PUBLIC REVIEW DRAFT

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Ministry of Agriculture, Livestock and Fisheries — State Department of Livestock
Department of Veterinary Services
Egerton University — Department of Dairy and Food Science Technology
Government Chemist's Department
National Public Health Labs
Kenya Industrial Research and Development Institute (KIRDI)
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New Kenya Creameries Cooperative (NKCC)
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Pasteurized goat milk — Specification

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DKS 2191: 2015

Foreword

This Kenya Standard was prepared by the milk and milk Products Technical Committee under the guidance of the Standards Project Committee and it is in accordance with the procedures of the Kenya Bureau of Standards.

This standard only covers pasteurized goat milk.

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Pasteurized goat milk — Specification

1 Scope

This Kenya Standard specifies the requirements and methods of test for pasteurized goat's milk.

2 Normative references

The following publications contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the edition indicated was valid. For undated references, the latest edition of the normative document referred to applies.

EAS 38, *Labelling of pre-packaged foods*

KS EAS 39; Code of practice for hygiene in the food and drink manufacturing industry

KS EAS 164:2007, Milk - Determination of fat content (Routine method).

KS EAS 162-1:2007, Milk and milk products - Milk, cream and evaporated milk - Part 1: Determination of total solids content (Reference method).

KS EAS 69, Pasteurized milk- Specification

KS EAS 38, *Labelling of pre-packaged foods*

KS CAC/GL 21, *Recommended international code of hygienic practice for foods for infants and children*

KS CAC/GL 23, Guidelines for use of nutrition claims

KS CODEX STAN 193, *Codex general standard for contaminants and toxins in foods*

KS ISO 5764:2009, Milk - Determination of freezing point - Thermistor cryoscope method (Reference method)

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

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

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

KS ISO 14501:2007 *Milk and milk powder - Determination of aflatoxin M content - Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography*

KS 1051, *Guide on maximum limits of pesticide residues in foods KS 2194:2009 – Good Manufacturing practice guide lines and the Dairy*

AOAC 942.17, *Arsenic in foods Molybdenum blue method*

AOAC 999.10, *Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic Absorption Spectrophotometry after dry ashing*

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[CAC/MRL 2](#) Maximum Residue Limits for Veterinary Drugs in Food

AOAC 962.16 Beta-lactam Antibiotics in milk

AOAC 980.21, Aflatoxin M1 in milk and cheese-thin layer chromatographic method

AOAC 980.21, organochlorine and organophosphorous pesticide residues in milk and milk products

3 Definitions

For the purposes of this standard, the following definition shall apply.

3.1

Raw whole milk

is the whitish, normal, clean and fresh secretions obtained by practically emptying the udder of a healthy goat, properly fed and kept, but excluding that got during the first seven days after kidding and free from colostrum

3.2

Pasteurisation

This is a heat treatment process applied to a product with the objective of eliminating possible health hazards arising from pathogenic micro-organism associated with milk by heat treatment which is consistent with minimal chemical, physical and organoleptic changes in the product

3.3

Pasteurised goat milk

Milk that has been subjected to pasteurization process as defined in 3.2 and chilled to 7 °C immediately, If retailed as such, this milk should be chilled to 7 °C and packaged without delay under conditions which eliminate contamination'

4 Pasteurization process

4.1 The recommended method of pasteurization shall be as follows:

4.1.1 Batch method

The temperature of milk shall be raised to not less than 65 °C and not more than 72 °C and retained within this range for 30 min and immediately and rapidly cooled to 4 °C or less.

4.1.2 High temperature short time method (H.T.S.T.)

The temperature of milk shall be raised to not less than 72 °C and not more than 80 °C and retained within this range for 15 s and immediately and rapidly cooled to 4°C or less.

5 Compositional requirements for pasteurized goat milk

Milk shall not contain any preservatives or other substances.

Parameter	Requirement	Test method
Milk Fat %, min ;	3.5	KS ISO 3433

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Milk solids not fat , min	9.0	KS ISO 5534
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6 Principal compositional requirements

6.1 Chemical

6.1.1 When tested in accordance with KS 13, pasteurized goat's milk shall contain not less than 2.8 % milk fat and not less than 8.5 % milk solids not fat.

6.1.2 It shall not contain added water, preservatives, or other added substances, nor shall any proportion of a natural constituent be removed.

6.1.3 Density of the milk at 20 °C shall be within the following range:

1.028 g/mL — 1.032 g/mL

6.1.4 When tested according to the test method given in KS 15, the freezing point depression of milk shall be +0.480 °C to +0.568 °C indicating the absence of added water.

6.1.5 Pasteurized milk shall have a pH of 6.5 — 6.8.

Physico-chemical requirements

Parameter	Requirement	Test method
pH	6.5-6.8	KS 57
T.A	0.1- 0.15	KS 57
Density of the milk at 20 °C	1.028 g/mL — 1.032 g/mL	KS ISO 5764

7 Microbiological limits

Table 1 — Microbiological limit for pasteurized goats milk

Micro-organism	Maximum limit cfu/mL
T.P.C	Not more than 10,000
coliforms	10
<i>Escherichia coli</i> in 25 gm	Nil
<i>Staphylococcus aureus</i> in 25 gm	Nil
<i>Salmonellae</i> Sp in 25 gm	Nil
Mould /yeast	Nil

8 Contaminants

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The products covered by this Standard shall comply with the maximum levels of CODEX STAN 193 and the maximum residue limits for pesticides and veterinary drugs established by the Codex Alimentarius Commission (CAC)

8.2 HEAVY METALS

Table 5 — Limits for heavy metal contaminants pasteurized goats milk

SL No	Heavy metal	MRL (Max.)	Test method
i).	Arsenic (AS)	0.1 mg/kg	AOAC 942.17
ii).	Lead (PH)	0.02 mg/kg	AOAC 999.10
iii).	Mercury (Hg)	1.0 mg/kg	AOAC 999.10
iv).	Copper (Cu)	5.0 mg/kg	AOAC 999.10
v).	Zinc (Zn)	50 mg/kg	AOAC 999.10
vi).	Tin (Sn)	250 mg/kg	AOAC 999.10
vii).	Cadmium as Cd,	1.5 mg/kg	AOAC 999.10
viii).	Iron (fe),	0.5 mg/kg	AOAC 999.10

8.2 Mycotoxin residues

Pasteurized goat milk shall not have more than 0.015ppb aflatoxin M1 content when tested according to KS ISO 14501:2007/ AOAC 980.21, Aflatoxin M1 in milk and cheese-thin layer chromatographic method

8.3 Total Antibiotic residues

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Pasteurized goat milk shall not have more than 10.0 ppb total antibiotic residues as (beta lactam) content when tested according to AOAC 962.16 Beta-lactam Antibiotics in milk; and when analyzed by the appropriate approved methods as given in the Food, Drugs and Chemical Substances Act, Cap. 254 of the law of Kenya and the CODEX guidance, the milk shall not contain any antibiotics.

8.4 Veterinary Drug Residues

When analyzed by the appropriate approved methods, Pasteurized goat milk shall not contain any veterinary drug Residues

Table 6- maximum veterinary drug residue Limits for Pasteurized goat milk

S/N	Parameter	Requirements/ MRL	Test method
<i>i</i>	Chloramphenicol	ND	AOAC 972.17
<i>ii</i>	Nitrofurans(including metabolites)	ND	AOAC 960.63
<i>iii</i>	Ronidazole	ND	AOAC 969.56
<i>iv</i>	Metronidazole	ND	AOAC 991.17
<i>v</i>	Fenbendazole	100ppb	AOAC 991.17
<i>vi</i>	Albendazole	100ppb	AOAC 991.17
<i>vii</i>	Phenylbutazone	ND	AOAC 991.17

8.5 Pesticide residues

Pasteurized goat milk shall not contain pesticide residues in excess of the residue limits in table 6

Table 6 - maximum pesticide residue Limits for Pasteurized goat milk

S/N	Parameter	Requirements	Test method
<i>i</i>	ORGANOCHLORINE Group	0.01 ppm	KS ISO 3890-1:2009
<i>ii</i>	ORGANOPHOSPHOROUS Group	0.01 ppm	AOAC 960.40

9 Weights and measures

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9.1 Shall be in accordance with the relevant weight and measures regulations.

9.2 Fill of container

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.

10 Milk packaging

10.1 Packaging

Pasteurized liquid milk shall be packaged in commercially sanitized dry containers. The packaging material shall be food grade and shall not affect the quality of the product.

The product when marketed shall be packaged in well-sealed containers in order to prevent spoilage or contamination of the product.

11 Labelling

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

- i) the name of product, "Pasteurized goat milk";
- ii) list of ingredients in descending order of proportion;
- iii) net content – The contents shall be declared by volume in metric units;
- iv) name and physical address;
- v) the name and the physical address of either the manufacturer, packer, distributor, importer, exporter or vendor of the product shall be declared;
- vi) expiry date;
- vii) manufacturing date;
- viii) Instruction of storage;
- ix) instruction of use;
- x) nutritional information;
- xi) the category of butterfat content in the milk;
- xii) lot number or batch number;
- xiii) The country of origin shall be declared.**