AFRICAN STANDARD

DARS 1057

First Edition 2025

Yoghurt — Specification

Reference No. DARS 1057:2025(E)
ICS 67.100.10

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Foreword

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This African Standard was prepared by ARSO 04: Milk and milk products.

ARSO Central Secretariat
International House 3rd Floor
P. O. Box 57363 — 00200 City Square
NAIROBI, KENYA

Tel. +254-20-2224561, +254-20-3311641, +254-20-3311608

E-mail: arso@arso-oran.org
Web: www.arso-oran.org

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International House 3rd Floor
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Yoghurt — Specification

1 Scope

This African Standard specifies requirements, sampling and test methods for yoghurt products intended for direct human consumption or further processing.

2 Normative references

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

ARS 53, *General Principles of Food Hygiene – Code of practice*

ARS 56, *Labelling of Prepackaged Foods*

ARS 1034, *Dairy Industry-Glossary of terms*

CXS 192, *General Standard for Food Additives*

CXS 193*, General Standard for Contaminants and Toxins in Food and Feed*

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

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 6888-1, *Microbiology of the food chain — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Method using Baird-Parker agar medium*

ISO 11290-1, *Microbiology of the food chain — Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. — Part 1: Detection method*

ISO 14501, *Milk and milk powder — Determination of aflatoxin M_1 content — Clean-up by immunoaffinity chromatography and determination by high-performance liquid chromatography*

ISO 23319*, Cheese and processed cheese products- Determination of fat content- Gravimetric method (Reference method)*

ISO 16649-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 1: Colony-count technique at 44 degrees C using membranes and 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ARS 1034 and the following shall apply**.**

3.1
yoghurt

milk product obtained by fermentation of milk, which milk may have been manufactured from products obtained from milk with or without compositional modification as limited by the provision in clause 4.3, by the action of suitable microorganisms (*Lactobacillus bulgaricus* and *Streptococcus thermophiles*) and resulting in reduction of pH with or without coagulation (iso-electric precipitation). These starter microorganisms shall be viable, active and abundant in the product to the date of minimum durability.

3.2

plain yoghurt

yoghurt to which no sugar nor food additives have been added.

3.3
heat-treated yoghurt

yoghurt which has been subjected to heat treatment after fermentation. The applied heat treatment may be to achieve pasteurisation, sterilization and UHT-treatment so as to prolong the product shelf life

NOTE If the product is heat-treated after fermentation the requirement for viable microorganisms does not apply

3.4
pasteurized yoghurt

yoghurt which has been subjected to pasteurization process after fermentation.

3.5
sterilized yoghurt

yoghurt that is heat-treated at a minimum of 115 °C for 15s aimed at attaining commercial sterility and prolonged shelf-life.

3.6
sweetened yoghurt

yoghurt to which one or more sugars only have been added.

3.7
flavoured yoghurt

yoghurt to which flavouring foods or other flavouring ingredients/ additives have been added. Flavoured yoghurt may contain a maximum of 50% (m/m) of non-dairy ingredients (such as nutritive and non-nutritive sweeteners, fruits and vegetables as well as juices, purees, pulps, preparations and preserves derived there from, cereals, honey, chocolate, nuts, coffee, spices and other harmless natural flavouring foods) and/or flavours. The non-dairy ingredients can be mixed in prior to/or after fermentation.

4 Requirements

4.1 Raw materials

Raw materials and ingredients used shall comply with relevant standards**.**

4.1.1 Essential raw materials

4.1.1.1 Milk and/or products obtained from milk.

4.1.1.2 Starter cultures of harmless microorganisms including those specified in clause 3.

4.1.2 Optional raw materials

a) Potable water for the use in reconstitution or recombination.

b) Sodium chloride.

c) Sugars and permitted sweeteners.

d) Permitted flavours, flavouring additives / ingredients, fruits, nuts (in flavoured yoghurt).

e) Gelatine and starch if permitted by national legislation in the country of sale to the final consumer; provided they are added only in amounts functionally necessary as governed by Good Manufacturing practices. These substances may be added either before or after adding the non-dairy ingredients.

4.2 General requirement

Yoghurt shall be free from dirt and foreign matter.

4.3 Compositional requirements

Yoghurt shall comply with the compositional requirements given in Table1 when tested in accordance with the test methods specified therein. Yoghurt may be classified as identified in Table 1 and meet the compositional requirements, as shown.

Table 1 — Compositional requirements for yoghurt

Parameter	Requirement					Test method
	High fat Yoghurt [ae]	Whole milk (Full fat) yoghurt[be]	Medium fat yoghurt[ce]	Reduced-fat yoghurt[e]	Fat free (skimmed) yoghurt[de]	
Milk fat % m/m	≥ 4.5	≥3.0	1.5 - 3.0	0.5 - 1.5	<0.5	ISO 23319
Milk protein % m/m, min.	2.7	2.7	2.7	2.7	2.7	
Titrable acidity, expressed as % lactic acid,% m/m, min.	0.6	0.6	0.6	0.6	0.6	
Milk solids non-fat (SNF) content, % m/m, min.	8.2	8.2	8.2	8.2	8.2	
Sum of microorganisms constituting the starter culture defined in section 4.1.1 (cfu/g, in total), min.	10^7	10^7	10^7	10^7	10^7	

[a] High fat yoghurt is also known as high cream or double cream yoghurt
[b] Whole milk (Full Fat) yoghurt' is also known as full cream
[c] Medium fat or reduced fat is also known as lite/low fat/ partially skimmed or partly skimmed
[d] Fat free/skimmed is also known as zero fat or no fat
[e] Products with less than 8.2 % milk solids non-fat content and less than 2.7% milk protein shall be considered under the provisions of dairy desserts
-In flavoured and sweetened yoghurt the compositional criteria apply to the fermented milk part

4.3.2 Accordingly, in the determination of milk components, the limits specified in Table 1 should be adjusted in accordance with the level of non-dairy components contained in the product.

5 Food Additives

Food additives may be used and only within the limits specified in accordance with CXS 192, Category 1.2.1 Fermented milks (plain) & Category 1.7 Dairy-based desserts (e.g. pudding, fruit or flavoured yoghurt.

6 Contaminants

6.1 Heavy metals

The products covered by this African Standard shall comply with those maximum limits for metal contaminants specified in CXS 193.

6.2 Aflatoxins

When tested in accordance with ISO 14501, the level of aflatoxin M_1 shall not exceed 0.50 µg/kg.

6.3 Pesticides residues

Pesticide residue limits shall be in accordance with limits set by the Codex Alimentarius Commission for the product.

6.4 Veterinary drug residues

Veterinary drug residue limits shall be in accordance with limits set by the Codex Alimentarius Commission for the product.

7 Hygiene

The products covered by this African Standard shall be produced, prepared and handled in accordance with the provisions of the appropriate sections of ARS 53 and ARS 1036.

Yoghurt shall be free from microorganisms and products originating from microorganisms in amounts which may represent a hazard to human health.

Yoghurt shall comply with microbiological limits given in Table 2 when tested in accordance with the methods specified therein.

Table 2 — Microbiological limits for yoghurt

Food category	Micro-organisms	Sampling plan		Limits		Test method
		n	c	m	M	
Fermented milks	*Salmonella*	5	0	Absence in 25 g		ISO 6579-1
	Listeria monocytogenes	5	0	Absence in 25 g		ISO 11290-1
	Coagulase-positive staphylococci	5	0	10 cfu/g	10^2 cfu/g	ISO 6888-1
	Escherichia Coli	5	2	10 cfu/g	10^2 cfu/g	ISO 16649-1

Note

n = number of units selected from a lot as a sample of product to be examined
c = number of sample units giving values between m and M. it's represents a maximum allowable number of marginally acceptable samples
m= Acceptable level of microorganisms determined by a specified method: the values are generally based on levels that are achievable under GMP

M= Value or level of microbial limit not to be reached or greater than in any unit of the sample. This level /value which when exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage.
PHC: Used as a criterion for the level of hygiene.

FSC: Food Safety Criterion

8 Packaging

Yoghurt shall be packaged in suitable food grade containers which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product during dispatch, transport and use of the product until the end of its shelf life.

9 Labelling

In addition to the provisions of ARS 56 and ARS 1034, the following specific provisions apply:

9.1 Name of the food

9.1.1 The name of the product shall be declared in accordance with the categories defined in Clause 3 subject to the classification provided Table 1

9.1.2 The designation of Flavored Yoghurt shall include the name of the principal flavoring substance(s) or flavor(s) added.

9.1.3 The provision which sugar or sugars have been added to yoghurt, the designations concerned shall be accompanied by the term “Sweetened”.

9.2 Declaration of milk fat content

The milk fat content shall be declared in a manner found acceptable in the country of sale to the final consumer, either (i) as a percentage by mass, (ii) as a percentage of fat in dry matter, or (iii) in grams per serving as quantified in the label provided that the number of servings is stated.

Additionally, terms may be used as per Table 1.

10 Methods of sampling

For checking compliance with this standard, the methods of sampling contained in ISO 707 shall be used.

Bibliography

CXS 243, Codex Standard for Fermented Milks.