
Cocoa Powder Mixtures/ Drinking Chocolate — Specification

Draft African Standard for comments only — Not to be cited as African Standard



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This African Standard was prepared by ARSO/TC 06, *Technical Committee on Coffee, Cocoa, Tea and Related Products*.

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INTRODUCTION

This African standard has been developed by Technical Committee TC 06 Cocoa, Coffee, Tea and related products".

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Cocoa Powder Mixtures / Drinking Chocolate — Specification

1. Scope

This African Standard specifies the requirements, sampling and referenced test methods for wet and dry Cocoa Powder Mixtures/ Drinking Chocolate intended for direct human consumption.

This standard is not applicable to ready-to-drink cocoa mixture.

2. Normative References

The following referenced documents are indispensable for the application 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.

CAC/RCP 72, Code of Practice for the Prevention and Reduction of Ochratoxin A Contamination in Cocoa.

CODEX STAN 212, Codex Standard for Sugars	Formatted
CAC/GL 21, Principles for the Establishment and Application of Microbiology in Foods	Formatted
International 18th Edition 2005, Rev. 1, 2006, Official Methods of Analysis of (AOAC)	Formatted
CODEX STAN Vol. 2, 1993, 2B, 2000 Pesticides Residues in Food	Formatted: Font: Not Bold
CAC/RCP 1, International Code of Practice – General Principles of Food Hygiene	Formatted
CODEX STAN 1985, Rev. 1-1991, Food Labeling of Packaged Foods	Formatted
CXS 234 Recommended methods of analyses and sampling	Formatted: Font: Not Bold
CODEX STAN Vol. 13, 1994, Method of Analysis and Sampling	Formatted
Codex stan 193 General Standard for Contaminants and Toxins in Food and Feed	Formatted: Font: (Default) Arial
CODEX STAN 87-198, Rev. 1-2003, Standard for Chocolate	Formatted: Font: 12 pt, Not Bold
CODEX STAN STAN105-1985, Rev.1-2016 Standard for Cocoa Powder and Dry Cocoa Sugar Mixture (Amended 2013)	Formatted
CAC/GL 23-1997, Guidelines for Use of Nutrition and Health Claims (Amended 2013)	Formatted
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Codex Stan 192 - 1995, Codex Alimentarius Commission General Standard for Food Additive Addendum (Revised 19 - 2019)

AOAC Official Method 931.04, Moisture in Cacao Products

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AOAC Official Method 963.15, Fat in Cacao Products Soxhlet Extraction

ISO 11085; Cereals, Cereals-based products and animal feeding stuffs - Determination of Crude fat and total fat content by the Randell Extraction Method

~~ISO 48331-1, Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique~~

ISO 6579, Microbiology of food and animal feeding stuffs - Horizontal method for the detection of Salmonella spp.

ISO 16649-2, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44°C using 5-bromo-4-chloro-3-indolyl beta-D- glucuronide

ISO 21527-2, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0,95

ISO 16050, Foodstuffs — Determination of aflatoxin B1, and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method

ISO 15141, Cereals and cereal products — Determination of ochratoxin A — High performance liquid chromatographic method with immunoaffinity column cleanup and fluorescence detection

AOAC Official Method, AOAC 963.21-1965, Arsenic in food. Kjeldahl flask digestion

AOAC official Method, AOAC 986.15, Cadmium, Lead, Selenium and zinc in human and pet foods. Multi-element method

~~ISO 2292, Cocoa beans — Sampling~~

ISO 4833-1, Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique

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ISO 1577 Tea — Determination of acid-insoluble ash

ISO 2171 Cereals, pulses and by-products — Determination of ash yield by incineration

ISO 605 Pulses — Determination of impurities, size, foreign odours, insects, and species and variety — Test methods

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

ISO 5498, Agricultural food products — Determination of crude fibre content — General method

AOAC 931.04, Loss on drying (moisture) in cacao products — Gravimetric method

AOAC 970.21, PH of cacao products. Potentiometric method

AOAC 999.11, Determination of Lead, Cadmium, Copper, Iron, and Zinc in Foods, Atomic Absorption Spectrophotometry after Dry Ashing

3 Terms and Definitions

For the purpose of this standard, the following terms and definitions apply.

3.1

cocoa beans

whole seeds of the cocoa tree (*Theobroma cacao* L.), which has been fermented and dried

3.2

cocoa nibs

cocoa beans, roasted or unroasted, cleaned, shelled and have undergone germ separation

3.3

cocoa butter

fat obtained from cocoa nib and its derivatives

3.4

cocoa liquor / mass

cocoa nib reduced to a fine paste by a mechanical process without losing any of its natural fat content

3.5

cocoa press cake

product obtained by partial removal of the fat from cocoa mass by mechanical means

3.6

cocoa powder

product obtained by mechanical transformation of cocoa press cake into powder

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3.7

cocoa powder mixture/ drinking chocolate

product made from combination of cocoa powder and other ingredients such as milk, emulsifiers, sugars, and flavouring agent

4.0 Presentation

4.1 Cocoa Powder Mixtures / Drinking Chocolate

4.2 Sweetened Cocoa Mixture

4.3 Sweetened Cocoa Flavoured Mixture

5.0 Ingredients

5.1 Essential ingredients

5.1.1 Cocoa Powder

Cocoa powder used for the production of cocoa mixture shall comply with African Standard for Cocoa Powder (ARS 1813).

5.2 Optional Ingredients

5.2.1 Water

5.2.2 Sugar

Sugar used for the production of Cocoa mixture shall comply with the relevant African Standard for Sugar.

5.2.3 Milk and Milk Products

Milk and milk products used for the production of Cocoa mixture shall comply with the relevant African Standards as follows:

5.2.3.1 Full Cream Milk

African Standard for Milk Powder,

5.2.3.2 Dairy creamer

5.2.3.3 Skimmed milk

5.2.4 Non-Dairy Creamer

5.2.5 Spices

5.2.6 Salt

5.2.7 Vitamins and Minerals

5.2.8 Malt Extract

5.2.9 Food Additives

Additives shall be in compliance with Codex Stan 192

6. Quality requirements

6.1. General Requirements

6.1.1 Cocoa mixture shall be in the form of free-flowing powder.

6.1.2 The colour, taste, odour and flavour shall be characteristic of the product.

6.1.3 It shall be free from fungal infestation, foreign matter and adulterants.

6.2. Specific requirements

Cocoa Powder Mixture / Drinking Chocolate shall comply with the specific requirements stated in Tables 1, 2 and 3.

Table 1 - Specific requirements for ~~Wet and Dry Mix~~cocoa powder mixture / drinking chocolate

S/N	Parameters	Wet Mix Specification Requirement	Dry Mix Specification	Reference Test Method
1.	Moisture % by weight (max)	34.0 5	4.0	AOAC 931.04
2.	Fat content % by weight (max)	10.0	3.0	AOAC 963.15
3.	Acid Insoluble Ash (%) (max)	0.5	0.5	ISO1577
4.	Ash content % weight (max)	5.0	1.5	ISO 2171
5.	Protein content % by weight(min)	85.0	5.0	AOAC 939.02
6.	Total Milk Solids %(min) *	12.0	12.0	ISO 605
7.	pH in (10% solution)	6.00 – 7.50	6.00 – 7.50	AOAC 970.21
8.	Sugar by % weight (max)	35.0	55.0	AOAC 2004
	* When added			

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Table 2 — Cocoa butter limits for Cocoa Powder Mixture

S/N	Product	Cocoa Butter Limit	Referenced Test Method
1	Cocoa Powder mixture, (%), (m/m)	≥ 20	ISO 11085
2.	Fat-reduced Cocoa powder mixture, (%) (m/m)	≥ 10 < 20	

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3.	High fat-reduced Cocoa powder mixture (%), (m/m)	<10	
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Table 3 — Cocoa powder limits for sweetened cocoa powder mixture

S/N	Product	Cocoa Powder Content	Referenced Test Method
1.	Sweetened Cocoa Powder, or Drinking Chocolate (%), (m/m)	≥ 25	GMP
2.	Sweetened-Cocoa powder Mix, or Sweetened Mixture with Cocoa powder (%), (m/m)	≥ 20 - <25	
3.	Sweetened-Cocoa flavoured Mix (%), (m/m)	< 20	

6.3 Contaminants

6.3.1 Microbiological

The product shall comply with microbiological requirements stated in Table 4.

Table 4 – Microbiological Requirements

S/N	Parameter	Specification	Reference Test method
1.	Total Viable Count (cfu/g)	$\leq 5 \times 10^3$	ISO 4833
2.	Coliform (cfu/g)	≤ 10	ISO 6579
3.	<i>E. coli</i> (cfu/g)	Absent in 25g	ISO 16649-2
4.	<i>Salmonella typhi</i> (cfu/g)	Absent in 25g	ISO 6579
5.	Yeast and Mould(cfu/g)	$\leq 10^2$	ISO 21527-2

6.3.2 Chemical

6.3.2.1 Mycotoxins

The maximum residue limit shall be in conformity with Table 5.

Table 5: Maximum limits for mycotoxins in cocoa mixtures

S/N	Parameter	Specification	Reference test method
1	Total Aflatoxin (ppb)	≤ 10.0	ISO 16050
2	Aflatoxin M1 (ppb)	≤ 5.0	ISO 14501
3	Ochratoxin A (ppb)	≤ 5.0	ISO 15141

6.3.2.2 Pesticides Residues

The Pesticide Residue Contaminant in cocoa mixture shall conform to those maximum residue limits established by the Codex Alimentarius Commission for pesticide residue in Codex Stan 193.

6.3.2.3 Heavy Metal Contaminants

The product shall comply with the maximum limits for heavy metals as stated in Table 6 when tested according to the methods listed therein:

Table 6: Maximum limits for heavy metals in cocoa mixtures

S/N	Parameter	Specification	Reference test methods
1.	Arsenic (mg/kg) (max)	0.5	AOAC 963.21
2.	Cadmium (mg/kg) (max)	0.1	AOAC 986.15

7. Hygiene

The product shall be produced and handled in accordance with CAC/RCP 1 and CAC/RCP 72.

8. Packaging and Labelling

8.1 Packaging

Cocoa Powder Mixture / Drinking Chocolate shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional and organoleptic properties of the product throughout the shelf life of the product.

8.2 Labelling

In addition to the provision of Codex Stan 1, the following shall apply:

8.2.1 Name of Product

8.2.1.1 The name of product shall be presented on the principal display panel of the label and shall not be obstructed by printed or graphics in bold capital letters of same colour and size.

8.2.1.2 The cocoa powder content shall be declared on the label and the name of the product shall be in accordance with Table 2 above. i.e.

- a) If cocoa powder content is below 20%, it shall be named **“Sweetened Cocoa Flavoured Mix”**
- b) If cocoa powder content is 20% or above and up to less than 25%, it shall be named **“Sweetened Cocoa Powder Mix”** or **“Sweetened Mixture with Cocoa Powder”**
- c) If cocoa powder content is 25% or more, it shall be named **“Sweetened Cocoa Powder”** or **“Drinking Chocolate”**

8.2.2 The use of vegetable fat, if used, in addition to cocoa butter shall be indicated on the product.

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8.2.3 Name and location address of the manufacturer, Packer, distributor, importer, exporter or vendor of the food shall be declared.

8.2.4 List of ingredients shall be declared on the label in descending order of proportion

8.2.5 The net content shall be declared by weight in metric system.

8.2.6 Batch number or code number

8.2.7 Waste disposal information

8.2.8 Date of production and Best before Date shall be declared

8.2.9 Storage instructions.

8.2.10 Any relevant certification mark(s), if applicable

9. Sampling

Sampling shall be in accordance with CAC/GL 50.

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