
Cocoa Powder — Specification



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Foreword

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These African Standards were prepared by ARSO/THC 02-5, *Technical Working Group on Coffee, Cocoa, Tea and Similar Products* under the mandate of ARSO/THC 02-6, *Technical Harmonization Committee Number 2 on Agriculture and Food Products* (ARSO/THC 02)

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Introduction

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

Cocoa Powder — Specification

1. SCOPE

This African Standard specifies quality and safety requirements, reference sampling and test methods, packaging and labelling for Natural Cocoa Powder and Alkalized Cocoa Powder intended for human consumption.

2. NORMATIVE REFERENCE

The following referenced documents applicable to this Standard, for dated references only the edition cited applies, for undated references the latest edition of the referenced document (including any amendment) applies.

- 2.1. CODEX STAN 1 General Standard for the Labelling of Pre-packaged Foods.
- 2.2. CODEX STAN 105 Standard for Cocoa powders (cocoas) and dry mixtures of cocoa and sugars.
- 2.3. Official Methods of Analysis of AOAC International
- 2.4. CODEX STAN 192: General Standard for Food Additives.
- 2.5. ISO 1842 Fruit and vegetable products — Determination of pHARS 1000-2 Sustainable cocoa — Part 2: Requirements for Cocoa Quality and Traceability
- 2.6. ISO 4832 Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique
- 2.7. 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
- 2.8. 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
- 2.9. ISO 21527-1 Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 1: Colony count technique in products with water activity greater than 0,95
- 2.10. 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 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide
- 2.11. ISO/TS 6579-2 Microbiology of food and animal feed — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 2: Enumeration by a miniaturized most probable number technique

3. TERMINOLOGYTERMS AND DEFINITIONS

For the purpose of this Standard the following shall apply:

3.1 cocoa mass

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fine paste obtained by mechanical process from grounded cocoa nibs without losing any of its natural fat content.

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3.2

cocoa nibs

cocoa beans, roasted or unroasted, cleaned, separated from their husk and broken into smaller pieces

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3.3

cocoa powder

cocoa powder is the pulverized end product from a pressing or extraction process that removes a significant portion of the fat or cocoa butter from the cocoa mass

3.4

cocoa press cake

solid residue left after partially extracting cocoa butter from cocoa mass by mechanical means."

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4 PRODUCT PRESENTATION

There are two types of cocoa powder: Natural cocoa powder and alkalized cocoa powder.

4.3.5.1 Natural Cocoa Powder

Natural cocoa powder comes from pressing cocoa beans with no additives. The resulting natural cocoa powder is usually a light brown colour.

3.5.24.2 Alkalized Cocoa Powder

Alkalized cocoa powder sometimes referred to as "dutch" come from cocoa nibs that have been treated with mild alkali solutions (Sodium or Potassium Carbonate) in order to raise the pH.

Alkalization improves the taste, enhance chocolate flavour, reduce sourness, and bitterness associated with natural cocoa powder.

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5 INGREDIENTS

4.5.1 Essential ingredients

4.5.1.1 Cocoa beans

Cocoa powder shall be prepared from cocoa beans of the species *Theobroma cacao*. The cocoa beans shall be whole and chocolate brown in colour.

5.4.1. 2 Sodium Carbonate or Potassium Carbonate (for Alkalized cocoa powder) that meets the requirements of Codex General Standard for Food Additives CXS 192.

5.4.2 OPTIONAL INGREDIENTS

Maximum level

4.2.15.2.1 Spices (limited by GMP)

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4.2.25.2.2 Salt / Iodized Salt [Sodium chloride] (limited by GMP)

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5.2.3 4.2.3 Food Additives

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The use of other permitted Food Additives shall be optional and comply with the provisions of the Codex Alimentarius Commission General Standard for Food Additives, CXS 192.

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6. QUALITY REQUIREMENTS

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6.1 General requirements

The product shall comply with the following requirements:

6.1.1 The product shall be free from foreign matter, dirt, and insect infestation.

6.1.2 The product shall be free from objectionable odour and or taste.

6.1.3 The product shall have the characteristic flavour of good quality beans of a particular variety.

6.1.4 The product shall have the characteristics colour and flavour of the variety of the cocoa beans used and the production process technique.

6.1.5 The cocoa beans used shall be free from moulds.

6.1.6 Natural cocoa powder shall be Light brown in colour and Alkalized cocoa powder shall be dark brown and brownish red.

6.2 SPECIFIC REQUIREMENTS

6.2.1 The product shall comply with the requirements given in Table 1:

TABLE 1 – Specific physico-chemical requirements

#	Parameters	Requirements for Natural Cocoa Powder	Requirements for Alkalized Cocoa Powder	Referenced Methods (Current Edition)	Test
1	Moisture content % (max)	5.8	5.8	AOAC 925.10	
2	Total Fat % (max)	10–12	10–12	AOAC 954.02/932.02	
3	Total ash, % (max)	7.2	9.012	AOAC 923.03	
4	Acid insoluble ash, % (max/min)	0.34	0.34	AOAC 941.12	
5	Protein % (max)	24.0	24.0	AOAC	
6	Total Carbohydrate % (max)	15.516	15.516	AOAC	
7	Crude fibre % (max)	34.3	34.3	AOAC	
8	pH	5.4 – 6.8	7.2 – 8.1	ISO 1842	

6.3 CONTAMINANTS

6.3.1 microbiological requirements

The product shall comply with the following Microbial limits in Table 2.

TABLE 2: MICROBIAL LIMITS

M	Microorganisms	n	c	Microbiological Limit per gram		Referenced Test Methods
				m	M	
1	Total Viable count (cfu/g)	5	2	10 ⁴	10 ⁵	ISO 4833-1:2003
2	Coliform (cfu/g)	5	1	10	10 ²	ISO 4832:2008
3	Yeasts & Moulds (cfu/g)	5	2	10 ³	10 ⁴	ISO 21527-1: 2008 ISO 21527-2:2008
4	<i>Escherichia coli</i> (cfu/g)	5	0	0	0	ISO 16649-2:2001

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5	<i>Salmonella</i> sp (cfu/25g)	5	0	Absent in 25g	0	ISO 6579-2:2002
6	<i>Enterobacteriaceae</i> (cfu/g)	5	2	10	10 ²	ISO 21528-2

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Interpretation of Limits

n = the minimum number of field samples to be tested from a lot of food in order to make scientific deductions on the sample lot.

c = the maximum allowable number of defective sample units with respect to "n"

m = acceptable microbiological level in a sample unit.

M = microbiological level when exceeded in one or more samples would cause the lot to be rejected.

56.3.2 Mycotoxin requirements

The product shall comply with the following limits in Table 3.

Table 3: Mycotoxin requirements

S/N	Chemical Contaminants	Limit
1	Total aflatoxins (ppb/microgram/kg) max	410
2	Ochratoxin A (ppb/mg/kg) max	5

56.3.3 Heavy metal requirements

The product shall not contain metallic contaminants above the following specifications.

Table 4: Metallic Contaminants

S/N	Heavy metals	Maximum Limit
1	Arsenic (mg/kg) max	1.00.1
2	Lead (mg/kg) max	0.14.0
3	Cadmium (mg/kg) max	0.6
3	Copper (mg/kg) max	50.0

5. 7. HYGIENE

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67.1 The product shall be prepared in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1)

7. 8. PACKAGING, LABELLING AND STORAGE

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78.1 PACKAGING

78.1.1 The packaging material shall be non-absorbent food grade material.

78.1.2 The packaging materials shall not impart any undesirable taste, odour or flavour to the product.

78.1.3 The product shall be sealed airtight and stored in a cool, dry place.

78.2 LABELLING

78.2.1 In addition to the Codex General Standard for the Labelling of Prepackaged Foods (CXS STAN 1), the following specific declarations shall be made:

78.2.2 Name of the product

78.2.3 Name and location address of the manufacturer, packer, distributor, importer, exporter or vendor of the food shall be declared"Name and location of the manufacturer

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78.2.3 Brand name

78.2.4 Batch/lot number and identification code

78.2.5 net weight (in metric system)

78.2.6 Date of manufacture and best before date

78.2.7 Storage condition

78.2.8 Any relevant certification mark(s), if applicable

8.2.9 Allergen declarations, if any

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89. SAMPLING

Sampling shall be in accordance with Codex Alimentarius Commission for methods of analysis and sampling (~~Volume 13~~[CXS 234](#))

BIBLIOGRAPHY

1. CODEX STAN 86, 1981 (Rev 1:2001) Standard for Cocoa Butter
2. CODEX STAN 239:2003 (Rev 1:2004) General Methods of Analysis for Food Additives.
3. CODEX STAN 87:1981 (Rev 1:2003) Standard for Chocolate
4. CODEX STAN 107:1981 (Rev 1:2004) General Standard for the Labelling of Food Additives when sold as such.
5. CODEX STAN 141:1983 (Rev 1:2001) Standard for Cocoa (Cacao) Mass (Cocoa/Chocolate Liquor) and Cocoa Cake.
6. CODEX STAN 192:1995 (Rev 12:2011) General Standard for Food Additives

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