
COCOA MASS (LIQUOR) — Specification



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Introduction

This African standard has been developed by Technical Committee TC 06 /WG 1-Cocoa on "Cocoa and related products".

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COCOA MASS (LIQUOR) — Specification

1. SCOPE

This African Standard specifies the quality and safety requirements as well as packaging and labelling for cocoa mass (liquor) intended for human consumption.

2. Normative References

The following referenced documents are 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. ARS 56 Standard for Labelling of Pre-packaged Foods
- 2.2. ARS 1000-2 Sustainable cocoa — Part 2: Requirements for Cocoa Quality and Traceability
- 2.3. FDA Guidelines for Food Hygienic Practices, 2004.
- 2.4. CAC/RCP 1-1969-Rev.4-2003 Codex Alimentarius Commission - General Principles of Food Hygiene
- 2.5. Codex Stan 192 General Standard for Food Additives
- 2.6. CXS 234 Recommended methods of analyses and sampling ~~Codex Alimentarius Commission for methods of analysis and sampling (Volume 13)~~
- 2.6. Codex 193 -1995 General Standard for Contaminants and Toxins in Food and Feed
- 2.8. 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
- 2.9. ISO 4833-2 Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 2: Colony count at 30 °C by the surface plating technique
- 2.10. 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
- 2.11. ISO 4833-2 Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 2: Colony count at 30 °C by the surface plating technique
- 2.12. ISO 16649-1 Microbiology of the food chain — 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
- 2.13. ISO 6579-1 Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp.
- 2.14. 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. Terms and Definitions

For the purpose of this Standard the following terms and definitions shall apply:

3.1

cocoa mass (liquor)

a solid or semi-solid mass obtained by roasting and grinding cocoa nibs. It may be alkalized or non-alkalized (natural). It is also known as cocoa paste or chocolate liquor

3.2

cocoa bean

a whole or decorticated bean (seed) from species of *Theobroma Cacao* which is flattened-ovoid and chocolate brown in colour

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3.3

cocoa nib

cocoa beans that have been roasted, separated from their husk and broken into smaller pieces

3.4

alkalizing agent

an alkaline substance used to raise the pH to reduce the acidity, such as carbonate or hydroxide of sodium, potassium and ammonium

3.5

alkalized cocoa mass (liquor)

the product obtained from an alkalinized cocoa nib

4. Essential Ingredients

The requirements for essential ingredients are as follows.

4.1 Cocoa beans

Only cocoa beans that meet the requirements of (ARS 1000-2) standard for cocoa beans shall be used in the production of cocoa mass (liquor).

4.2 Alkalizing Agents

Any of the under listed permitted alkalizing agents as limited by Good Manufacturing Practices (GMP) shall be used in the alkalization of cocoa mass.

Table 1 – List of alkalising Agents

#	Alkalising Agent	Maximum Level
1.	Ammonium Carbonate	limited by GMP
2.	Ammonium Hydroxide	limited by GMP
3.	Ammonium Hydrogen Carbonate	limited by GMP
4.	Potassium Carbonate	limited by GMP
5.	Potassium Hydroxide	limited by GMP
6.	Potassium Hydrogen Carbonate	limited by GMP
7.	Sodium Carbonate	limited by GMP
8.	Sodium Hydroxide	limited by GMP
9.	Sodium Hydrogen Carbonate	limited by GMP

5. Optional Ingredients

5.1 Other Food Additives

Other food additives may be used within the specified limits specified in Codex Stan 192 General Standard for Food Additives ~~and in clauses 5.2 to 5.4.~~

5.2 Neutralizing Agents

Table 2 – Neutralising Agents

#	Neutralizing Agents	Maximum Level
1.	Orthophosphoric acid	2.5g/kg expressed as P ₂ O ₅ in finished cocoa
2.	Citric acid	2.5g/kg in finished cocoa
3.	L-Tartaric acid	5g/kg in finished cocoa

5.3 Emulsifiers

Table 3 – Emulsifiers

#	Emulsifiers	Maximum Level
1	Mono-and di-glycerides of edible fatty acids	Limited by GMP
2	Lecithin	Limited by GMP
3	Ammonium salts of phosphatidic acids	Limited by GMP
4	Edible sucrose esters of fatty acids	Limited by GMP

5.4 Flavouring Agents

Table 4 – Flavouring Agents

#	Flavouring Agents	Maximum Level
1	Natural and artificial flavours except those which reproduce the flavour of chocolate or milk	Limited by GMP
2	Vanilla	Limited by GMP
3	Ethyl vanillin	Limited by GMP

6. Quality Requirements

6.1 General Requirements

In accordance with the Good Manufacturing Practices, the product shall be free from objectionable matter, insect contamination, foreign matter, and adulterant of any kind.
Products shall have dark brown colour and have intense cocoa flavour."

6.2 Specific Requirements.

Cocoa mass (liquor) shall comply with the specific requirements in Table 25.

Table 25: Specific rRequirements for Cocoa mass (liquor)

#	Parameter	Requirement		Reference Method	Test
		Natural	Alkalized		
1	Moisture content % m/m (max)	2	2	AOAC 977.10	
2	Shell content % m/m (max)	1.75	1.75	AOAC 968.10	
3	Fat content % m/m	35-56 47 - 56	35-56 47 - 56	AOAC 963.15	
4	pH (10 % solution)	4.7-5.6	6.8-7.2		
5	Fineness % (min) through 75µm wet sieving	98	98		
6	Free fatty acids as Oleic acid% (max)	1.75	1.75	ISO 660:1996/Amd 2003	
7	Crude fibre(%)max	0.4	0.4	AOAC 920.39C	
8	Ash content(%)max	0.5	0.8	AOAC 972.15	
9	Acid insoluble ash(%)max	0.05	0.05	AOAC 972.15B	

6.3 Contaminants

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6.3.1 Microbial

The maximum limits allowable for microbial contaminants shall be as in Table 6.

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Table 36 – Microbial Contaminants

#	Parameter	Max Permitted limit(cfu/g)	Reference test method
1	Total Plate count (max)	10,000 10 ⁴	ISO 4833:2008
2	Yeast (max)	10 ² 50	ISO 21527:2008
3	Mould sfu/g (max)	10 ² 50	ISO 21527:2008
4	Coliforms	NilAbsent	ISO 4832:2008
5	E. coli	AbsentNil	ISO 16649:2001
6	Salmonella /25gm	AbsentNil	ISO 6579:2002

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6.3.2 Chemical

6.3.3 Mycotoxins

Table 7 – Mycotoxin Contaminants

#	Mycotoxin	Limit
1	Total Aflatoxin	- 104microgram/kgppb (max)
2	Ochratoxin A	- 5ppb (max)

6.3.4 Pesticides Residues

~~The maximum limits for pesticide residues shall be in accordance with Codex Pesticides Residues MRLS. The maximum residue limit shall be in conformity with the Codex Alimentarius Commission (CAC/RS/100-1993) as amended.~~

6.3.5 Heavy Metals

The maximum limit allowable for heavy metals shall be as follows:

Table 8 – Heavy Metals

S/N	Heavy Metals	Requirement(mg/kg)	Reference Test Method
1	Cadmium (Cd)	0.9	AOAC 990.05
2	Arsenic (As)	1.0	
3	Lead (Pb)	1.0	AOAC 934.07

7. Hygiene

It is recommended that the product covered by the provision of this standard be prepared and handled in accordance with the relevant section of the Recommended International Code of Practice-General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 4-2003) and FDA Guidelines for Food Hygiene practice, 2004.

~~7.2 When tested by appropriate method of sampling and ——— examination, the product.~~

- ~~(a) ——— Shall be free from pathogenic microorganism capable of developing under normal storage conditions and.~~
- ~~(b) ——— Shall not contain any substance originating from microorganisms in amount which may represent a hazard to health.~~

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8. Packaging and Labelling

In addition to the ARS 56 Standard for Labelling of Pre-packaged Foods, the following specific provision shall apply;

8.1 Packaging

Cocoa mass (liquor) shall be packaged in suitable and clean container which shall not affect the quality of the product and shall also be harmless to the health of the consumers.

8.2 Labelling

Each container shall be labelled as follows:

- (i) Name of the product: The name of the product shall be clearly and boldly written on the container
- (ii) Brand or trademark, if any.
- (iii) Name and full locational address of the manufacturer or distributor.
- (iv) Date of Manufacture and "Best before" Date
- (v) Batch Number
- (vi) A complete list of ingredients in descending order of proportion
- (vii) Net contents shall be declared in metric system
- (viii) Lot identification: Each container shall be marked in code or in clear to identify the producing factory and the lot.
- ~~(ix) Each container shall be embossed with MANCAP NIS logo.~~

9. Sampling

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