

Cocoa powder — Specification

Part 2:

Cocoa-sugar mixtures

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Proctor & Allan E.A Ltd

University of Nairobi — Department of Food Technology and Nutrition

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Foreword

This Part of KS 436 was developed by the Technical Committee on Cocoa and Cocoa Products under the guidance of the Standards Projects Committee and it is in accordance with the procedures of the Bureau.

Cocoa-sugar mixture is a product of cocoa and sugar. It is used as a sweetened cocoa beverage. This edition of this standard reflects changes in the technical committee representation, re-organization of the clauses and the inclusion of cadmium heavy metal as a contaminant.

As in Part 1 of this standard, the revision led to the removal of acid insoluble ash and review of the pH level.

A clause on sampling was added to aid in drawing samples to test for conformity.

During the preparation of this standard, reference was made to the following documents:

Codex Alimentarius volume 11-1994

Codex Stan 105-1981, Rev.1-2001 Cocoa powders (cocoas) and dry cocoa sugar mixtures.

Codex Stan 192- 1995 –Codex General Standard for Food Additives

Codex Stan 193- Codex Standard for contaminants and toxins in food and feed.

MS 871:2001- Specification for Malaysian cocoa powder.

Acknowledgement is hereby made for the assistance derived from these sources.

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1 Scope

This standard specifies requirements for cocoa-sugar mixtures intended for human consumption.

2 Normative references

The following referenced documents are indispensable for the application of this document:

EAS 38- Labelling of prepackaged foods

EAS 217– Methods for the microbiological examination of foods.

EAS 41: 2000 - Part 1-16. –Methods of test for processed fruits and vegetables

EAS 39- Code of Hygienic Practice in the Food and Drink Manufacturing companies.

KS ISO 16050 -- Foodstuffs - Determination of Aflatoxin B1 and total content of aflatoxin B₁, B₂, G₁ and G₂ in cereals ,nuts and derived products-HPLC Method.

KS ISO: 4833—Methods for the microbiological examination of foods – Colony count Technique at 30 °C. -- General Guidance.

KS ISO 4832: Methods for the microbiological examination of foods – Enumeration of coliforms- - colony count technique at 30 °C. -- General Guidance.

KS ISO: 6888-1- 3 Methods for the microbiological examination of foods – Enumeration of coagulase-positive staphylococci.

KS ISO 21527-1,2 Methods for the microbiological examination of foods—Enumeration of yeasts and moulds in food.

KS ISO 6579: - Methods for the microbiological examination of foods—Examination for salmonellae.

KS 05-229, *Specification for edible salt*

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KS 436-3¹ Test methods for cocoa powders

KS 05-1051³⁾ Guide on maximum limits of pesticide residues

KS 05-660, *Guide to the safe use of food additives*

KS 1812, *Cocoa and cocoa products — Test methods*

KS 436-3 Test methods for cocoa powders

2 Definitions

For the purpose of this standard, the following definitions shall apply:

2.1

Cocoa powder

It is the final product obtained from the cocoa liquor through cocoa press cake from which the fat (cocoa butter) has been partially removed. Cocoa liquor is derived from the cocoa beans after these have first been fermented, dried, cleaned, roasted, cracked and substantially freed from the shell to obtain the nibs, which are then ground. The beans, nibs, cocoa liquor and cocoa press cake may sometimes be alkalized by suitable alkalizing agent.

As defined in KS 436-1¹⁾.

2.2

Cocoa-sugar mixtures

Shall be preparations of cocoa powders and sugar with or without flavouring.

3 Composition for cocoa-sugar mixtures

3.1 Basic raw material

3.1.1 Cocoa powder

Shall comply with KS 436: Part 1.

3.1.2 Sugars

¹⁾ Test methods for cocoa powders.

³⁾ Guide on maximum limits of pesticide residues.

¹⁾ Specification for Unsweetened cocoa powder.

For the purpose of this standard, any or a combination of the following sugars can be used and they shall comply with the relevant standards:

- a) fructose;
- b) dextrose — Complying with KS CODEX STAN 54:1981²⁾;
- c) dry or liquid glucose syrup complying with KS 345³⁾;
- d) icing sugar;
- e) honey complying with KS 344⁴⁾;
- f) White sugar complying with KS 38:1992⁵⁾.
- g) refined sugar complying with KS 1701⁶⁾;
- h) Brown sugar complying with KS 1702 Part 2⁷⁾.

3.2 Optional ingredients

3.2.1 Spices

These shall comply with the relevant Kenya standards.

3.2.2 Edible salt

Shall comply with KS 299⁸⁾.

4 Types of cocoa-sugar mixtures

4.1 Sweetened cocoa powder (drinking chocolate)

Shall contain not less than 25 % m/m cocoa powder calculated on dry matter basis.

4.2 Sweetened cocoa mix or sweetened mixture with cocoa

Shall contain not less than 20 % m/m cocoa powder calculated on dry matter basis.

NOTE The above types of cocoa-sugar mixtures can be flavoured with any of the flavours stipulated in clause 6.4

5 Quality requirements

5.1 Cocoa-sugar mixtures shall be in the form of free-flowing powder having a colour, taste and flavour characteristic of cocoa-sugar mixture.

5.2 The cocoa-sugar mixtures shall be readily dispersible in water.

5.3 When tested in accordance with KS 1812⁹⁾ cocoa-sugar mixtures shall comply with the quality requirements stipulated in Table 1.

Table 1 — Requirements for cocoa-sugar mixtures

²⁾ Specification for Powdered dextrose.

³⁾ Specification for glucose syrup.

⁴⁾ Specification for honey.

⁵⁾ Specification for white sugar.

⁶⁾ Specification for refined sugar.

⁷⁾ Specification for brown sugar.

⁸⁾ Specification for edible salt.

⁹⁾ Test methods for cocoa powders.

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SL NO.	Characteristic	Requirement
i)	Moisture content, % by mass (max.)	5.5
ii)	Total ash on dry and fat free basis (max.)	14.0
iii)	PH (max.)	8.0
iv)	Crude fibre (on moisture and fat free basis, % by mass (max.))	7.0

6 Food additives

Food additives usage shall be in compliance with Codex Stan 192- Codex general Standard for Food Additives.

7 Contaminants

7.1 Cocoa-sugar mixtures shall not contain heavy metal contaminants exceeding the limits stipulated in Table 2, when tested according to the Atomic Absorption Spectrophotometer (AAS) Method.

Table 2 — Maximum limits for heavy metal contaminants in cocoa-sugar mixtures

SL No.	Heavy metal contaminant	Maximum limits (in ppm)
i)	Copper	50
ii)	Arsenic	1.0
iii)	Lead	2?1.0
vi)	Cadmium	1

7.2 Pesticide residue limits in cocoa-sugar mixtures shall comply with the limits specified in KS 1051¹⁰⁾.

8 Hygiene

8.1 The product shall be manufactured in approved and licensed premises which shall comply with EAS 39, the Public Health Act, Cap. 242 laws of Kenya

8.2 Cocoa sugar mixtures shall comply with the Food, Drugs and Chemical Substances Act, Cap 254 of the laws of Kenya

8.3 Cocoa-sugar mixtures shall be free from objectionable matter.

8.4 Cocoa-sugar mixtures shall not contain any pathogenic micro-organisms and when tested according to the test methods given in EAS 217 –Methods for the microbiological examination of foods. The product shall comply with the microbiological limits stipulated in Table 3.

¹⁰⁾ Guide on maximum limits of pesticide residues in foods.

Table3 — Microbiological limits for cocoa-sugar mixtures

Type of micro-organism	Maximum limit
Total plate count cfu/g	5×10^4
Presumptive coliforms, cfu per gram	absent
<i>E-Coli</i> , cfu per gram	absent
<i>Salmonella</i> , cfu per 25 gram	absent
Yeast and moulds, cfu per gram	10^2

8.5 When tested according to KS ISO 16050¹³⁾, total aflatoxin and aflatoxin B₁ in cocoa-sugar mixtures shall not exceed 10 ppb and 5 ppb respectively.

8.6 Cocoa sugar mixtures shall comply with Weights and Measures Act Cap 513, Laws of Kenya

9 Environmental Management

9.1 The product shall be processed in an environment that complies with EMCA No 8 1999

9.2 disposal of used package and condemned materials shall comply with EMCA No 8 1999.

10 Packaging

The product shall be packed in food grade materials that secure integrity and safety of the product.

11 Labelling

In addition to the labelling requirements in EAS 38- Labelling of prepackaged foods
The following specific declarations shall be legibly and indelibly marked:

i) the name of the product;

The name of the product complying with 4.1 shall be labelled as "sweetened cocoa powder" or "drinking chocolate".

The name of the product complying with 4.2 shall be labelled as "sweetened cocoa mix" or "sweetened mixture with cocoa".

ii) name, address and physical location of the manufacturer / vendor;

iii) type of flavour used, if any;

iv) net weight in g or kg;

v) list of ingredients in descending order of proportion;

vi) expiry date;

vii) instructions for use;

¹³⁾ Foodstuffs – Determination of aflatoxin B₁ and the total content of aflatoxin B₁, B₂ G₁ and G₂ in cereals, nuts and derived products – High performance liquid chromatographic method.

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- viii) conditions of storage;
- ix) country of origin;
- x) Lot/batch number.
- xi) Irradiation status where applicable
- xii) G M O status where applicable

12 **Methods of Test**

Cocoa-sugar mixtures shall be tested according to the methods specified in KS 1812¹⁵⁾ and KS 436-3¹ Test methods for cocoa powders

13 **Sampling**

Any container or package of cocoa-sugar mixtures drawn from a lot or batch shall constitute a representative sample of that lot or batch.