

Malt-based cocoa products — Specification

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TECHNICAL COMMITTEE REPRESENTATION

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Proctor & Allan E.A Ltd.
Trufoods Ltd.
Excel Chemicals Ltd.
University of Nairobi – Department of Food Technology and Nutrition
Consumer Information Network
Kenya Industrial and Research Development Institute (KIRDI)
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Foreword

This Kenya Standard has been prepared by the Cocoa and Cocoa Products Technical Committee under the guidance of the Standards Projects Committee and it is in accordance with the procedures of the Kenya Bureau of Standards.

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This standard covers malt-based cocoa products. A malt-based cocoa product is a product made primarily from malt, cocoa and sugar. Other optional ingredients can also be added.

This standard gives the quality specifications, the microbiological limits and the heavy metal contaminants for malt-based cocoa products.

Implementation of this standard will ensure that products offered for sale are safe for human consumption.

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

Codex Standards for cocoa products and chocolate.

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

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

IS 1164: 1986 reaffirmed 2007(Revision 3 First Reprint July 2009 including amendment 1 and 2).

Indian Standard - Specification for cocoa powder.

MS 871 : 2001 -Specification for Malaysian cocoa powder.

Cocoa and Chocolate Technology 1974 by B.W.Minifie, Oxford University Press.

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

Malt-based cocoa products — Specification

1 Scope

This Kenya Standard specifies the requirements and test methods for malt-based cocoa products. It covers products presented as powdered and granulated meant for human consumption

2 Normative references

The following referenced documents are indispensable for the application of this Kenya Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- I. *KS 38, Plantation (mill) white sugar — Specification*
- II. *KS EAS 35, Fortified Edible salt — Specification*
- III. *KS EAS 36, Honey — Specification*
- IV. *KS 345, Glucose syrup — Specification*
- V. *KS EAS 1031, Cocoa powder and cocoa powder mixture — Specification*
- VI. *KS 660, Guide to the safe use of food additives*
- VII. *KS 1701, Refined white sugar — Specification*
- VIII. *KS 1812-2, Cocoa and cocoa products — Test methods Part 2: Determination of moisture*
- IX. *KS 1812-3, Cocoa and cocoa products — Test methods Part 3: Determination of water-insoluble, water soluble and acid-insoluble ash*
- X. *KS 1812-4, Cocoa and cocoa products — Test methods Part 4: Determination of pH.*
- XI. *KS 1812-5, Cocoa and cocoa products — Test methods Part 5: Determination of cocoa powder fineness - Water sieving method*
- XII. *KS CODEX STAN 54, Codex standard for powdered dextrose (icing dextrose)*
- XIII. *KS EAS 38, Labelling of pre-packaged foods — Specification*
- XIV. *KS EAS 39, Hygiene in the food and drink manufacturing industry — Code of practice*
- XV. *KS ISO 6579, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.*
- XVI. *Codex Stan 192, Codex general standard for food additives*
- XVII. *KS ISO 4831, Microbiology of food and animal feeding stuffs Horizontal method for the detection and enumeration of coliforms*
- XVIII. *KS ISO 7251 Microbiology of food and animal feeding stuffs Horizontal method for the detection and enumeration of presumptive Escherichia coli*

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- XIX. *KS ISO 6579-1 Microbiology of the food chain Horizontal method for the detection, enumeration and serotyping of Salmonella Part 1: Detection of Salmonella spp.*
- XX. *KS ISO 6888-3 Microbiology of food and animal feeding stuffs Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 3: Detection and MPN technique for low numbers*
- XXI. *KS 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*
- XXII. *ISO 16050 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*
- XXIII. *ISO 15141 Cereals and cereal products Determination of ochratoxin A - High performance liquid chromatographic method with immunoaffinity column cleanup and fluorescence detection*
- XXIV. *ISO 2292 Cocoa beans -Sampling*
- XXV. *CAC/GL 50 General guidelines on sampling*

3 Definitions

For the purposes of this standard, the following definitions shall apply.

3.1

cocoa powder

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.

Shall be as defined in KS EAS 1031

3.2

malt-based cocoa product

shall be the product made from malt extract to which cocoa, sugars and any other optional ingredient (as stated in Clause 4.2) have been added

3.3

malt extract

shall be a golden brown viscous liquid (syrup) or a free flowing powder extracted from malted barley.

4 Compositional requirements

4.1 Basic raw materials

4.1.1 Cocoa powder

This shall comply with KS EAS 1031. The amount of cocoa powder in malt-based products shall not be less than 5 % m/m.

4.1.2 Malt extract

The amount shall not be less than 20 % m/m.

4.1.3 Sugars

For the purposes of this standard, any or a combination of the following sugars can be used and shall comply with the relevant Kenya Standards. These shall be:

- a) Fructose;
- b) Dextrose complying with KS Codex Stan 54;
- c) Icing sugar complying with KS 38;
- d) Dry or liquid glucose syrup complying with KS 345;
- e) Honey complying with KS EAS 36
- f) Mill white sugar complying with KS 38;
- g) Refined sugar complying with KS 1701;
- h) Caramel sugar.

4.2 Optional ingredients

4.2.1 Milk and milk products, complying with the relevant Standards.

4.2.2 Salt, complying with KS EAS 35.

4.2.3 Vitamins and minerals, and in case a claim is made it shall comply with in EAS 805.

4.2.4 Any other food grade ingredients limited by GMP. These shall be those approved by the Foods, Drug and Chemical Substances Act, Cap. 254 of the Laws of Kenya and/or the Codex Alimentarius Commission.

5 Food additives

The use of food additives shall comply Codex Stan 192.

6 Quality requirements

6.1 General quality requirements

6.1.1 Malt-based cocoa products shall be free from impurities and shall not contain any foreign matter.

6.1.2 It shall have a uniform colour and shall be free from burnt particles.

6.1.3 The product shall not have off-flavors and tastes.

6.2 Chemical requirements

When tested in accordance with the referenced test methods, malt-based cocoa products shall comply with the chemical requirements stipulated in Table 1.

Table 1 — Chemical requirements for malt-based cocoa products

SL No	Characteristic	Requirement	Test method
i)	Moisture content, % mass by mass, max.		KS 1812-2
	a) Granules	3.0	

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	b) Powder	7.0	
ii)	Total ash, m/m % max.	8.5	KS 1812-3
	Acid insoluble ash, m/m % max	1	KS 1812-3
iii)	pH	6-8	KS 1812-4
iv)	Particle size distribution (through a 300-micron sieve) a) Dust, % max. b) Granular, % min. c) Powder, % min	15 85 99	KS 1812-5

7 Hygiene

7.1 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.

7.3 Malt-based cocoa products shall not contain any pathogenic microorganisms and when tested, the product shall comply with the microbiological requirements stipulated in Table 2.

Table 2 — Microbiological limits for malt-based cocoa products

SL No	Type of micro-organism	Max. limit [not detected]	Test Methods
i)	Presumptive coliforms, cfu per g	Absent	KS ISO 4831
ii)	<i>E-coli</i> , cfu per 25g	absent	KS ISO 7251
iii)	<i>Salmonella</i> , cfu per 25 g	absent	KS ISO 6579
iv)	<i>Staphylococcus aureaus</i> , cfu per g	absent	KS ISO 6888-3
v)	Yeast and moulds, cfu per g, Max	10 ²	KS ISO 21527-2

8 Contaminants

8.1 Mycotoxins

Malt-based cocoa products shall not exceed maximum limits for mycotoxins given in Table 5 when tested in accordance with test methods specified therein.

Table 3 — Maximum limits for mycotoxins

S/N	Mycotoxin	Maximum limit, µg/kg	Test method
I.	Total aflatoxin	10	ISO 16050
II.	Aflatoxin B ₁	5	ISO 16050
III.	Orchratoxin A	10	ISO 15141

8.2 Heavy Metals

Malt – based cocoa products shall not exceed maximum heavy metal limits established by the Codex Alimentarius Commission.

8.3 Pesticides residues

Malt – based cocoa products where applicable shall comply with those maximum pesticide residue limits established by the Codex Pesticide Online Database.

9 Packaging

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

9.2 The weight of the product shall comply with the Weights and Measures Act, Cap. 513 Laws of Kenya.

10 Labelling

In addition to the labeling requirements in EAS 38, the following specific declarations shall be legibly and indelibly made:

- i) Name of the product with an indication clearly on its presentation as “granulated” or “powdered” or any other form;
- ii) Name, address and physical location of the manufacturer;
- iii) Declaration of any vitamins or fortificants;
- iv) Manufacturing date;
- v) Net weight, in grams or kilograms;
- vi) List of ingredients in descending order of proportion;
- vii) Expiry date;
- viii) Instructions for use;
- ix) Storage instructions;
- x) Country of origin;
- xi) Lot/batch number;
- Xii) Instructions for disposal of used package;
- Xiii) GMO status; where applicable;
- Xiv) Irradiation status; where applicable.

12 Sampling

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Sampling shall be done in accordance with ISO 2292 and CAC/GL 50.

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