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## **DRAFT EAST AFRICAN STANDARD**

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**Natural cinnamon extract — Specification**

**EAST AFRICAN COMMUNITY**

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## Foreword

Development of the East African Standards has been necessitated by the need for harmonizing requirements governing quality of products and services in the East African Community. It is envisaged that through harmonized standardization, trade barriers that are encountered when goods and services are exchanged within the Community will be removed.

The Community has established an East African Standards Committee (EASC) mandated to develop and issue East African Standards (EAS). The Committee is composed of representatives of the National Standards Bodies in Partner States, together with the representatives from the public and private sector organizations in the community.

East African Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. Draft East African Standards are circulated to stakeholders through the National Standards Bodies in the Partner States. The comments received are discussed and incorporated before finalization of standards, in accordance with the Principles and procedures for development of East African Standards.

East African Standards are subject to review, to keep pace with technological advances. Users of the East African Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

The committee responsible for this document is Technical Committee EASC/TC 005, *Food additives*.

Attention is drawn to the possibility that some of the elements of this document may be subject of patent rights. EAC shall not be held responsible for identifying any or all such patent rights.

## Introduction

Natural cinnamon extract has a strong cinnamon aroma and tastes like fresh, ground cinnamon. Natural cinnamon extract is obtained from the bark of cinnamon species namely *Cinnamomum verum*, *Cinnamomum zeylanicum*, and *Cinnamomum aromaticum* by alcohol extraction. Natural cinnamon extract is used in flavouring various food products such as ice creams, syrups, baked goods, mulled ciders and tea and coffee. Natural cinnamon extracts contain ethyl alcohol, water and cinnamon bark oil. It may contain non-flavour ingredients include propylene glycol.

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# Natural cinnamon extract — Specification

## 1 Scope

This Draft East African Standard specifies the requirements, sampling and test methods for natural cinnamon extract obtained from the bark of cinnamon species namely *Cinnamomum verum*, *Cinnamomum zeylanicum* or *Cinnamomum aromaticum* for use for use as a flavouring agent in food products.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

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

CAC/GL 50, *General guidelines on sampling*

Codex 193, *General standard for contaminants and toxins in food and feed*

EAS 39, *Code of practice for hygiene in the food and drink manufacturing industry*

CODEX STAN 107, *General standard for the labelling of food additives when sold as such*

ISO 4833, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of microorganisms – Colony count technique at 30°C*

ISO 6579, *Microbiology of food and feeding stuffs — Horizontal method for the detection of salmonella spp*

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*

EAS 38, *Labelling of pre-packaged foods — General requirements*

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*

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 6637, *Fruits, vegetables and derived products -- Determination of mercury content -- Flameless atomic absorption method*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **cinnamon spice**

spice that is the cured, dried, and conditioned bark of *Cinnamomum verum*, *Cinnamomum zeylanicum* or *Cinnamomum aromaticum*

### 3.2

#### **natural cinnamon extract**

solution of the sapid and odorous principles extractable obtained from cinnamon spice

### 3.3

#### **food grade material**

material made of substances which are safe and suitable for their intended use and which will not impart any toxic substance or undesirable odour or flavour to the product.

## 4 Ingredients

### 4.1 Essential ingredient

Cinnamon spice extractives, ethyl alcohol and water complying with the relevant East African standards

### 4.2 Optional Ingredients

Natural cinnamon extract may contain one or more of the following optional ingredients and shall comply to the relevant standard:

- a) glycerine; and
- b) propylene glycol;

## 5 Requirements

### 5.1 General requirements

Natural cinnamon extract shall:

- a) have the characteristic aroma, flavour and colour; and
- b) not be mixed with any synthetic flavour material.

### 5.2 Specific requirements

Natural cinnamon extract flavour shall comply with the physicochemical requirements in Table 1 when tested in accordance with the test methods specified therein.

**Table 1 — Physicochemical requirements for natural cinnamon extract**

S/N	Characteristic	Requirement	Test method
i	Alcohol % (v/v), min	35	EAS 104
ii	pH	4 - 6.5	ISO 10523

## 6 Hygiene

6.1 Natural cinnamon extract shall be prepared and packaged in premises built and maintained under hygienic condition in accordance with EAS 39.

6.2 The product shall comply with microbiological limits given in Table 2 when tested in accordance with the test methods specified therein.

**Table 2 — Microbiological limits for natural cinnamon extract**

S/N	Microorganism	Maximum limit	Test method
i.	Total viable count, Cfu/ml	10 <sup>4</sup>	ISO 4833-1
ii.	Yeast and moulds, cfu/ml	10 <sup>2</sup>	ISO 21527-1
iii.	Salmonella spp in 25 ml	Absent	ISO 6579-1
iv.	E. Coli, cfu/ml	Absent	ISO 16649-2

## 7 Contaminants

### 7.1 Pesticide residues

Natural cinnamon extract shall comply with pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

### 7.2 Heavy metals

Natural cinnamon extract shall comply with the maximum levels for the heavy metals given in Table 3 when tested in accordance with the test methods specified therein.

**Table 3 — Permitted maximum level of heavy metals in natural cinnamon extract**

S/N	Heavy metal	Maximum limit mg/kg	Test method
i.	Lead (Pb)	3.0	AOAC 999.11
iii.	Arsenic (As)	1.0	AOAC 999.11
iv	Cadmium (Cd)	0.01	AOAC 999.11
v	Mercury (Hg)	0.01	ISO 6637

### 7.3 Mycotoxin

Natural cinnamon extract shall comply with mycotoxin limits of given in Table 4 when tested in accordance with the test methods specified therein.

**Table 4 — Mycotoxins limits for natural cinnamon extract**

S/N	Mycotoxin	Maximum limit µg/kg	Test method
i.	Aflatoxin B <sub>1</sub>	5	ISO 16050
ii.	Total aflatoxin	10	

## **98 Packaging**

Natural cinnamon extract shall be packaged in food grade material to safeguard the safety, hygienic, nutritional and organoleptic qualities of the product.

## **9 Labelling**

**9.1** In addition to the requirements in CODEX STAN 107, each package shall be legibly and indelibly labelled with the name of the product as "Natural cinnamon extract."

**9.2** The labelling shall be in English or any other official language used in the importing East African Partner State.

## **10 Sampling**

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



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