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## DRAFT EAST AFRICAN STANDARD

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Spices — Cumin (*Cuminum cyminum* L.) — 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 006, *Spices, condiments and culinary herbs*.

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## Spices — Cumin (*Cuminum cyminum* L.) — Specification

### 1 Scope

This draft East African Standard specifies requirements, methods of sampling and tests for cumin (*Cuminum cyminum* L.) intended for human consumption.

### 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.

*Codex online guideline for pesticide residues in food*

CODEX STAN 193, *Codex general standard for contaminants and toxins in food and feed*

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

EAS 39, *Hygiene in the food and drink manufacturing industry — Code of practice*

EAS 803, *Nutrition labelling — Requirements*

EAS 804, *Claims — General requirements*

ISO 928, *Spices and condiments — Determination of total ash*

ISO 930, *Spices and condiments — Determination of acid-insoluble ash*

ISO 939, *Spices and condiments — Determination of moisture content — Entrainment method*

ISO 948, *Spices and condiments — Sampling*

ISO 1108, *Spices and condiments — Determination of non-volatile ether extract*

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*

ISO 6571, *Spices, condiments and herbs — Determination of volatile oil content (hydrodistillation method)*

ISO 6579 (all parts), *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of salmonella*

ISO 16050, *Food stuffs — 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*

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*

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°C using 5-bromo-4-chloro -3-indolyl beta –D-glucuronide*

ISO 2825, *Spices and condiments — Preparation of a ground sample for analysis*

### 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

##### **cumin**

consists of the fruits of *Cuminum cyminum* L., with two elongated mericarps which remain joined and the dimensions of which vary depending on the origin. Each mericarp, which is ochre-grey to light brown in colour, bears five thin pale primary ribs and four wider secondary ribs which are darker.

#### 3.2

##### **ground cumin**

product obtained by grinding the dried mature fruit of *Cuminum cyminum* L.

#### 3.3

##### **broken fruits**

damaged, shrivelled, discoloured or immature seeds

## 4 Requirements

### 4.1 General requirements

Cumin shall

- a. have characteristic flavour, aromatic and not musty.
- b. be free from other edible seeds such as carom seeds, dill, caraway, anise seeds and the like
- c. be free from living insects, dead insects, insect fragments and rodent contamination visible to the naked eye
- d. be classified according to origin, and in three grades according to its extraneous matter and foreign matter content and the proportion of broken fruits as indicated in Table 1.

Table 1 — Grades for whole cumin

Grade	Extraneous matter content, max. % mass fraction	Foreign matter content, max. % mass fraction	Proportion of damaged/defective fruits, max. % mass fraction	Insect-damaged matter, max. % mass fraction
I	1	0.5	5	1
II	2	0.5	5	1
III	3	0.5	5	1

## 4.2 Specific requirements

4.2.1 Whole and ground cumin shall comply with the requirements given in Table 2.

Table 2 — Specific requirements for whole and ground cumin

Characteristics	Requirement for grade			Cumin, ground	Method of test
	I	II	III		
Moisture content, % mass fraction, max.	9	10	12	12	ISO 939
Total ash, % mass fraction (dry basis), max.	8.5	10	12	9.5	ISO 928
Acid-insoluble ash, % mass fraction (dry basis), max.	1.5	3	4	1.5	ISO 930
Non-volatile ether extract, % mass fraction (dry basis), min.	15	15	12	15	ISO 1108
Volatile oil content, ml/100 g (dry basis), min.	2	1,5	1,5	1.3	ISO 6571

4.2.2 Cumin shall be ground to such fineness that 98% of it passes through a sieve of 500 micron (0.500 mm).

## 5 Food additives

The use of food additives in cumin shall be in accordance with Codex Stan 192.

## 6 Contaminants

### 6.1 Pesticide residues

Pesticide residues in cumin shall not exceed maximum residue limits as established in the Codex online guideline for pesticide residues in food.

### 6.2 Heavy metals

Heavy metals in cumin shall not exceed maximum heavy metal limits as stipulated in CODEX STAN 193.

### 6.3 Aflatoxin limits

Total aflatoxin shall not exceed 10 µg/kg and aflatoxin B1 shall not exceed 5 µg/kg when tested with ISO 16050.

## 7 Hygiene



Cumin shall be manufactured and handled in a hygienic manner in accordance with EAS 39 and shall comply with the microbiological limits stipulated in Table 3 when tested in accordance with the methods specified therein.

**Table 3 — Microbiological requirements for cumin (whole and ground)**

<b>S/No</b>	<b>Characteristic</b>	<b>Requirement</b>	<b>Test method</b>
i.	Total plate count, cfu/g, max.	10 <sup>5</sup>	ISO 4833-1
ii.	Yeast and moulds, cfu/g, max.	10 <sup>4</sup>	ISO 21527-2
iii.	<i>Salmonella spp.</i> , per 25 g	Absent	ISO 6579
iv.	<i>E coli</i> , MPN/g, max.	Absent	ISO 16649 -2

## **8 Packaging**

Whole and ground cumin shall be packaged in food grade packaging material that secures the integrity and the safety of the product.

## **9 Labelling**

In addition to the requirements of EAS 38, EAS 803 and EAS 804, each container shall be legibly and indelibly labelled with the following information:

- a) name of the product as “whole or ground cumin”;
- b) trade name or brand name if any;
- c) name, physical and postal address of manufacturer and / or packer;
- d) batch or code number;
- e) net weight in metric units;
- g) storage conditions;
- h) manufacturing date;
- i) expiry date; and
- j) instructions for use.
- k) country of origin

## **10 Sampling**

Sample consignments of cumin in accordance with ISO 948.

Prepare a ground sample for analysis in accordance with ISO 2825, In view of the risk of loss of volatile oil, take appropriate precautions when carrying out grinding.

## **Annex A (informative)**

### **Recommendations relating to storage and transport conditions**

- A.1** Containers should be stored in closed premises, protected from the sun, rain and excessive heat.
- A.2** The store-room should be dry, free from unpleasant odours and protected against the entry of insects or vermin. Ventilation equipment should be adjusted so as to ensure good ventilation during dry weather and to be fully closed in wet weather. Suitable arrangements should be made to allow fumigation of the store-room.
- A.3** Containers should be handled and transported so that they are protected from rain, sun and other sources of excessive heat, unpleasant odours and any contamination, particularly in the holds of ships.

## Bibliography

- [1] ISO 6465 — *Spices — Cumin (Cuminum cyminum L.) — Specification*

