

ICS 67.220.10

**Cardamon powder — Specification**

PUBLIC REVIEW DRAFT NOVEMBER 2017

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Jomo Kenyatta University of Agriculture and Technology  
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In order to keep abreast with the progress in the industry, Kenya standards shall be regularly reviewed. Suggestions for improvement of published standards are welcome and should be addressed to the Managing Director, Kenya Bureau of Standards.

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**KENYA STANDARD**

**KS 1093: 2018**

ICS

67.220.10

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**Foreword**

This second edition of this Kenya Standard was prepared by the Spices and Condiments Technical Committee under the guidance of the Food Industry

Standards Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

Cardamon powder is one of the important and commonly used materials for spicing foods. The standard specifies the minimum requirements and test methods for cardamon powder.

This Third edition of the standard cancels and replaces the second edition which has been withdrawn. It incorporates a table on heavy metal contaminant limits, reviewed physical and chemical limits and microbiological limits that refer to reviewed test methods in line with updated harmonised test methods now used in the EAS and global markets.

The standard also incorporates a packaging clause that secures the integrity and safety of the product.

During the preparation of this standard, references were made to the following documents:

IS: 1907- 1984 Specification for cardamon capsules and seeds.

ISO 882:1980 Specification for cardamons.

SLS 166:1980 Specification for cardamons.

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

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## Cardamon powder— Specification

### 1 Scope

This Kenya standard prescribes the requirements for cardamom powder.

### 2 Normative references

The following referenced documents are indispensable for the application 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.

KS ISO 4832:, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coli forms — Part 3: Colony-count technique.

KS ISO 6579, Microbiology of food and animal feeding stuffs — Part 6: Horizontal method for the detection of *Salmonella* spp.

KS ISO 6888-1, Microbiology of food and animal feeding stuffs Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species) Part 1: Technique using Baird-Parker agar medium.

KS ISO 16654, *Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli 0157.*

[ISO 16654:2001/Amd 1:2017 - Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Escherichia coli 0157](#)

[Annex B: Result of interlaboratory studies...](#)

KS ISO 6633, Fruits ,Vegetables and derived products- Determination of lead content- Flameless atomic absorption Spectrometric Method.

KS ISO 6634, Fruits ,Vegetables and derived products- Determination of Arsenic Content - Silver diethyldithiocarbamate spectrophotometric Method.

KS EAS 39---*Code of hygienic practice for food and drink manufacturing companies*

## **KS 1093: 2018**

KS ISO 16050, *Foodstuffs — Determination of Aflatoxin B<sub>1</sub>, and the total contents of Aflatoxins B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub> and G<sub>2</sub> in cereals, nuts and derived products — High performance liquid chromatographic method*

Codex Stan 193 --Codex Standard for Contaminants in food and feeds.

Codex Stan 192- Codex standard for Additives in Foods

KS EAS 38, *Labelling of pre-packaged foods.*

KS ISO 927:2009 Spices and condiments - Determination of extraneous matter and foreign matter.

ISO 927 :2009 Cor. 1 :2012

KS ISO 948 –*Spices and condiments -- Sampling*

KS ISO 16050, *Foodstuffs — Determination of Aflatoxin B<sub>1</sub>, and the total contents of Aflatoxins B<sub>1</sub>, B<sub>2</sub>, G<sub>1</sub> and G<sub>2</sub> in cereals, nuts and derived products — High performance liquid chromatographic method*

Codex Stan 193 --Codex Standard for Contaminants in food and feeds.

Codex Stan 192- Codex standard for Additives in Foods

KS ISO 6571, Spices, condiments and herbs — Determination of volatile oil content (hydro distillation method).

KS ISO 928-Spices and condiments -- Determination of total ash.

KS ISO 930-Spices and condiments -- Determination of acid-insoluble ash.

KS [ISO 939](#):--Spices and condiments -- Determination of moisture content -- Entrainment method .

*KS ISO 2253- Curry powder - Specification.*

ISO 15061: --Water quality -- Determination of dissolved bromate -- Method by liquid chromatography of ions.



### 3 Description

Cardamon powder is the product obtained through grinding of clean dry cardamoms (*Elettaria cardamomum*) either as whole capsule, separated seeds or combination of both.

### 4 Requirements

#### 4.1 General requirements

**4.1.1** Cardamon powder is the product obtained through grinding of clean dry Cardamons (*Elettaria cardamomum*) either as whole capsule, separated seeds or combination of both.

**4.1.2** Cardamon powder shall be free from foreign matter and insect infestation. It shall be free from any added colouring matter, preservatives and adulterants.

**4.1.3** Cardamon powder shall be ground to such fineness that 99 % of the material passes through 300-micron sieve.

#### 4.2 Physical and chemical requirements

Cardamon powder shall comply with the physical and chemical limits given in Table 1.

**Table 1 — Physical and chemical limits for Cardamon powder**

SI No.	Characteristic	Limit	Test method
i)	Moisture content, %, by mass, max.	10.0	KS <a href="#">ISO 939</a> :
ii)	Total ash, %by mass, max.on dry matter basis.	10.0	KS ISO 928
iii)	Acid-insoluble ash, % by mass, max. on dry matter basis.	1.0	KS ISO 930
iv)	Volatile oil, %, by mass, min.	1.5	KS ISO 6571
v)	Extraneous matter	Negligible	KS ISO 927
vi)	Foreign matter	Nil	KS ISO 927 Cor. 1
vii)	Starch % by mass, max. a) By acid hydrolysis method b) By diastase hydrolysis method	50 ? 40 ?	KS ISO 2253
viii)	Test for lead bromate	Negative	ISO 1506

### 4.3 Heavy metal contaminants

Cardamon powder shall comply with the heavy metal contaminants limits given in Table 2.

**Table 2 — Heavy metal contaminants limits for cardamon powder**

SI No.	Characteristic	Limit	Test method
i)	Lead as Pb, mg/kg. max.	2.5	KS ISO 6633

ii)	Arsenic as As, mg/kg, max.	0.5	KS ISO 6634,
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#### 4.4 Microbiological limits

Cardamon powder shall comply with the microbiological limits given in Table 3.

**Table 3 — Microbiological limits for cardamom powder**

Sl No	Characteristic	Limit	Test method
i)	E. Coli	Shall be absent in 1 g	KS ISO 16654
ii)	Coli form, max.	Shall be absent in 1 g	KS ISO 4832
lii )	Yeast and moulds	10 <sup>3</sup> per g	KS ISO 21527-2
iv)	<i>Salmonella</i>	Shall be absent in 25 g.	KS ISO 6579
v )	<i>Staphylococcus aureus</i>	Shall be absent in 1 g.	KS ISO 6888-1-3

## 5 Hygiene

Cardamon powder shall be manufactured under hygienic conditions complying with KS EAS 39, the Public Health Act, Cap. 242 Laws of Kenya, Food Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya.

## **KS 1093: 2018**

### **5.1 Aflatoxins**

Cardamon powder shall not have more than 10 ppb total aflatoxins and 5 ppb Aflatoxin B<sub>1</sub>, when tested according to KS ISO 16050.

## **6 Weights and measures**

### **6.1 Fill of the container**

Fill of the container shall comply with the Weights and Measures Act, Cap. 513 of the Laws of Kenya and conform to Cleaner Production Technology.

### **6.2 Aflatoxins**

Cardamon powder shall not have total aflatoxins exceeding 10 ppb and 5 ppb for Aflatoxin B<sub>1</sub> when tested according to KS ISO 16050.

## **7 Environmental management**

Cardamon powder shall be processed in an environment that conforms to Environment Management Coordination Act 1999 No.8 on environmental management and conform to Cleaner Production.

## **8 Packaging and labelling**

### **8.1 Packaging**

**8.1.1** Cardamon powder shall be packed in food grade materials that ensure product integrity and safety.

**8.1.2** Fill of the container shall comply with the Weights and Measures Act, Cap. 513 Laws of Kenya.

**8.1.3** Disposal of used container and condemned cardamom shall comply with EMCA No 8 of 1999 of the Laws of Kenya on the disposal of liquid and solid wastes.

## 8.2 Labelling

Labelling shall be done in accordance with KS 40, and shall include the following:

- i) name of the product;
- ii) name, physical location and address of manufacturer/packer/importer;
- iii) date of manufacturers;
- iv) net contents, in gm/kg;
- iv) batch/lot or code number;
- vi) expiry date;
- vii) storage instructions;
- ix) instructions for use;
- viii) country of origin;
- x) instructions for disposal of packaging materials;
- xi) Expiry Date
- xii) declaration of GMO status..
- xiii) Irradiation Status

## 9 Sampling

Sampling shall be done according to KS ISO 948.