

**Garam masala — Specification**

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# **Garam masala — Specification**

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# KS 2432: 2018

## Foreword

This Kenya Standard was prepared by the Technical Committee on Spices and Condiments under the guidance of the Standards Projects Committee, and it is in accordance with the procedures of the Kenya Bureau of Standards.

The standard prescribes general requirements, the compositional and microbiological requirements for all types of garam masala marketed in Kenya. It also sets out heavy metal contaminant limits for Garam masala. The standard lays down the hygienic and environmental conditions to be met during the processing of the product. This standard has been reviewed to incorporate reviewed test methods for microbiology and heavy metal contaminant limits.

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

The Food, Drugs and Chemical Substances Act, Cap. 254 of the Laws of Kenya.

IS 13545: 1992, Garam masala — Specification.

Codex Stan 192 - Codex General Standard for food additives.

Codex Stan 193 - Codex General Standard for contaminants in Foods and feeds.

The Public Health Act, Cap. 242 of the Laws of Kenya.

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

## Garam masala — Specification

### 1 Scope

This Kenya Standard prescribes the requirements and methods of sampling and test for Garam masala.

### 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 EAS 38, *Labelling of pre-packaged foods*

KS ISO 21527-2:2008 Kenya Standard — 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.

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 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 793, Microbiology of food and animal feeding stuffs -- Horizontal method for the enumeration of *Clostridium perfringens* -- Colony-count technique.

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

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

-EAS 35, *Fortified Edible salt — Specification.*

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

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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

ISO 6632- Fruits and Vegetables & derived products - determination of volatile acidity

ISO 2173:2003, Fruit and vegetable products -- Determination of soluble solids -- Refractometric 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 941](#):--Spices and condiments -- Determination of cold water-soluble extract

KS [ISO 948](#):--Spices and condiments -- Sampling

ISO 1108 -Spices and condiments -- Determination of Non-volatile ether extract .

KS ISO 927:2009-- Spices & Condiments - Determination of extraneous matter.

ISO 927:2009 Cor. 1:2012 -- Spices & Condiments - Determination of extraneous matter. (with Annex For Inter laboratory Testing )

ISO 5498:1981- Agricultural food products - Determination of crude fiber content- General Method.

[ISO 763:2003](#)- Fruits & Vegetables - Determination of ash insoluble in Hydrochloric acid.

[ISO 2173:2003](#)- Fruits & Vegetable products - Determination of soluble solids - Refractometric method.

### 3 Requirements

#### 3.1 Description

**3.1.1** Garam masala powder is obtained by grinding clean, dried and sound black/white pepper, caraway, white cumin, cloves, small/large cardamom, cinnamon, Chinese cassia, mace and nutmeg, saffron and ginger, [coriander](#), [chilies](#), [turmeric](#), [poppy and mustard seeds](#), [garlic](#), [tejpat](#), [curry leaves](#), preservatives and farinaceous matter.

##### 3.1.1.1 Additives

Garam masala shall be free from additives such as starch, added colouring matter.

##### 3.1.1.1.1 Optional Ingredients

Edible fortified salt complying to EAS 35, may be considered as an optional ingredient

**3.1.1.2** Garam masala shall be free from dirt, insect and rodent infestation, mould growth, when examined with naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary. If the magnification exceeds 10 X, this fact shall be stated in the test report.

##### 3.1.1.3 Appearance/Colour

Garam masala shall be in powder form. Garam masala shall be of different shades of brown depending on the ingredients.

#### 3.2 Taste and flavour

Garam masala shall have a fresh and pleasant aroma with a strong spicy peppery flavour. Garam masala is pungent, but not "hot" in the same way as a [chili pepper](#).

**NOTE:**{Garam masala, from [Hindi](#) garam, "hot" and masala "paste", is a basic blend of ground [spices](#) common in [Indian](#) cuisine.<sup>[1]</sup> It is used alone or with other seasonings. The word *garam* refers to temperature, not spice intensity; Garam masala is pungent, but not "hot" in the same way as a [chili pepper](#). }

### 4 Specific requirements

**4.1** Garam masala shall also comply with the requirements given in Table 1.

Table 1 — Requirements for Garam Masala

SI No.	Characteristic	Requirement	TESTMETHOD
i)	Moisture, % by mass, max.	10.0	KS <a href="#">ISO 939</a>
ii)	Total ash, % by mass, max.	7.0	KS-ISO 928
iii)	Acid insoluble ash, % by mass, max.	1.0	KS- <a href="#">ISO 930</a>
iv)	Non-volatile ether extract, % by mass,min.	15.0	ISO 1108
v)	Volatile oil, mL/100 g, min.	1.5	KS ISO 6571
vi)	Crude fibre, % by mass, max.	15.0	ISO 5498
vii)	Salt (as NaCl), % by mass, max.	1.0	EAS 35

NOTE :SL No. (ii) to viii) to be calculated on dry weight basis.

## 5 Hygiene

Garam masala 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.

### 5.2 Garam masala shall conform to the microbiological limits indicated in Table 2.

Table 2 — Microbiological limits for Garam masala

SL No	Characteristic	Limits	Test method
i)	Coli forms, cfu/g	< 10	KS ISO 4832
ii)	Yeast and mould counts, cfu/g	< 10	<b>KS ISO 21527- 2</b>
?iii)	<i>E. Coli</i> counts, cfu/g	Absent	KS ISO 16654
iv	<i>Clostridium perfringens</i>	< 10	KS ISO 793
v)	<i>Salmonella</i> , cfu /25 g	Absent	KS ISO 6579
Vi )	<i>Staphylococcus aureus</i> cfu/ g	< 10	KS ISO 6888-1- 3,

#### 5.2.2 Garam masala shall comply with the heavy metal contaminant limits given in Table 3.



**Table 3 — Heavy metal contaminant limits for Garam masala**

SI No.	Contaminants	Contaminants limits, max.	Test methods
i)	Arsenic (As)	1mg/kg ( 0.5)	KS ISO 6634
ii)	Lead (Pb)	1 mg/kg. ( 2 )	KS ISO 6633

## 6 Hygiene

Garam masala 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.

5.1.1 Garam Masala shall comply with the Biosafety Act, No 2 of 2009 of the laws of Kenya .

5.2 Garam Masala shall comply with KS 2182.

### 5.3 Aflatoxins

Garlic paste shall not have more than 10 ppb total aflatoxins and 5 ppb Aflatoxin B1. when tested according to KS ISO 165060.

## 6 Weights and measures

### 6.1 Fill of the container

Fill of the container shall comply with the Weights and Measures Act, Cap 213, of the Laws of Kenya.

## 7 Environmental management

Garam masala shall be processed in an environment that conforms to EMCA 1999 No.8 on environmental management and conform to Cleaner Production Technology.

## 8 Packaging and marking

### 8.1 Packaging

Garam masala shall be packed food grade materials that secure integrity and safety of the product.

### 8.2 Labelling

The following particulars shall be marked or labelled on each container/carton:

- a) Name of the material and trade name or brand name, if any;
- b) Name and address of the manufacturer;

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- c) Batch or code number;
- d) Net weight;
- e) The names of spices and condiments in descending order by weight;
- f) Date of manufacture;
- g) Expiry date;
- h) Directions for use.
- g) G M O Status
- h) Irradiation Status

### **9 Sampling.**

Samples of Garam Masala shall be drawn according to the methods prescribed in KS ISO 948.

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