



**SLOVENSKI STANDARD**  
**SIST ISO 2254:1997**

**01-junij-1997**

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**Klinčki, celi in mleti (v prahu) - Specifikacija**

Cloves, whole and ground (powdered) -- Specification

Clous de girofle entiers et clous de girofle en poudre -- Spécifications

**Ta slovenski standard je istoveten z: ISO 2254:1980**

[SIST ISO 2254:1997](https://standards.iteh.ai/catalog/standards/sist/f22b1760-4a14-4d66-a8a9-02441ab78ec7/sist-iso-2254-1997)

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**ICS:**

67.220.10      Začimbe      Spices and condiments

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International Standard



2254

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

## Cloves, whole and ground (powdered) — Specification

*Clous de girofle entiers et clous de girofle en poudre — Spécifications*

First edition — 1980-06-01

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UDC 633.832

Ref. No. ISO 2254-1980 (E)

Descriptors : agricultural products, spices, cloves, specifications.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2254 was developed by Technical Committee ISO/TC 34, *Agricultural food products*, and was circulated to the member bodies in October 1978.

It has been approved by the member bodies of the following countries :

Brazil	India	South Africa, Rep. of
Bulgaria	Israel	Spain
Canada	Kenya	Sri Lanka
Chile	Korea, Rep. of	Turkey
Czechoslovakia	Mexico	United Kingdom
Egypt, Arab Rep. of	Netherlands	USA
Ethiopia	Peru	Yugoslavia
France	Poland	
Hungary	Romania	

The member body of the following country expressed disapproval of the document on technical grounds :

Thailand

# Cloves, whole and ground (powdered) – Specification

## 1 Scope and field of application

This International Standard specifies requirements for whole and ground (powdered) cloves [*Eugenia caryophyllus* (C. Sprengel) Bullock and Harrison].

Recommendations relating to storage and transport are given in the annex as a guide.

## 2 References

ISO 927, *Spices and condiments — Determination of extraneous matter*.

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 1208, *Ground spices — Determination of filth (Reference method)*.<sup>1)</sup>

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

ISO 5498, *Agricultural food products — Determination of crude fibre content — General method*.<sup>1)</sup>

## 3 Definitions

**3.1 whole clove** : A floral bud, harvested before blooming, and dried, of *Eugenia caryophyllus* (C. Sprengel) Bullock and Harrison. It comprises a receptacle containing, in its upper part, two loculi containing numerous ovules, and crowned by four acute divergent sepals surrounding a dome-shaped head consisting of four paler unexpanded membranous imbricate petals enclosing numerous incurved stamens and a single stiff erect style (see figure 1).

**3.2 headless clove** : A clove consisting of only the receptacle and sepals and which has lost the dome-shaped head (see figure 2).

**3.3 khoker clove** : A clove which has undergone fermentation as a result of incomplete drying, as evidenced by its pale brown colour, whitish mealy appearance and, often, wrinkled surface.

**3.4 mother clove** : The fruit of the clove tree (*Eugenia caryophyllus*), which is in the form of an ovoid brown berry surrounded by four incurved sepals (see figure 3).

**3.5 clove stem** : A dry fragment of the stalk of the clove (see figure 4).

**3.6 ground (powdered) clove** : Powder obtained by grinding cloves without any addition.

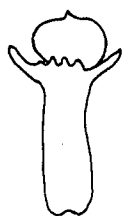


Figure 1 — Whole clove

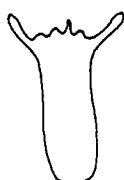


Figure 2 — Headless clove



Figure 3 — Mother clove

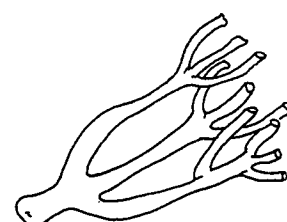


Figure 4 — Clove stem

1) At present at the stage of draft.

## ISO 2254-1980 (E)

## 4 Requirements

## 4.1 Odour and flavour

Whole or ground (powdered) cloves shall have a strong, aromatic, spicy odour and characteristic flavour. They shall be free from off-flavour, including mustiness.

## 4.2 Colour

4.2.1 Whole cloves shall be of a reddish-brown to blackish-brown colour.

4.2.2 Ground (powdered) cloves shall be of a brown colour with a violet tinge.

## 4.3 Freedom from moulds, insects, etc.

The cloves, whole or ground (powdered), shall be free from living insects and moulds, and shall be practically free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected if necessary, for abnormal vision), with such magnification as may be necessary in any particular case. If the magnification exceeds 10 X, this fact shall be stated in the test report.

In case of dispute, contamination in ground (powdered) cloves shall be determined by the method described in ISO 1208.

## 4.4 Extraneous matter

Extraneous matter includes the following :

- a) dirt, dust, mud, stones, pieces of wood, etc.;
- b) all the particles originating from the plant other than the cloves, tendrils and peduncles;
- c) exhausted cloves.

The proportion of extraneous matter in cloves, when determined by the method described in ISO 927, shall not exceed the value given in table 1 for the relevant grade.

## 4.5 Classification of whole cloves

Whole cloves shall be classified according to table 1.

Table 1 — Classification of whole cloves

Grade	Headless cloves % max.	Tendrils, mother cloves % max.	Khoker cloves % max.	Extraneous matter % max.
1 Special (Hand-picked)	2	0,5	0,5	0,5
2	5	4	3	1
3	*	6	5	1

\* Not specified.

4.6 Chemical requirements<sup>1)</sup>

## 4.6.1 Whole cloves

Whole cloves shall comply with the requirements given in table 2.

Table 2 — Chemical requirements for whole cloves

Characteristic	Requirement	Method of test
Moisture % (m/m), max.	12	ISO 939
Volatile oil ml/100 g on dry basis, min.		Method under consideration
— Grades 1 and 2	17*	
— Grade 3	15*	

\* Tentative value, pending preparation of method of test.

1) Limits for toxic substances will be included later, in accordance with the recommendations of the FAO/WHO Codex Alimentarius.

#### 4.6.2 Ground (powdered) cloves

Ground (powdered) cloves shall comply with the requirements given in table 3.

**Table 3 — Chemical requirements for ground (powdered) cloves**

Characteristic	Requirement			Method of test
	Grade			
	1	2	3	
Moisture % (m/m), max.	10	10	10	ISO 939
Total ash % (m/m) on dry basis, max.	7	7	7	ISO 928
Acid-insoluble ash % (m/m) on dry basis, max.	0,5	0,5	0,5	ISO 930
Volatile oil ml/100 g on dry basis, min.	16*	16*	14*	Method under consideration
Crude fibre % (m/m), max.	13	13	13	ISO 5498

\* Tentative value, pending preparation of method of test.

## 5 Sampling

Sample the cloves, whole or ground (powdered), by the method described in ISO 948.

Minimum mass of laboratory sample : 200 g.

## 6 Methods of test

The samples of cloves, whole or ground (powdered), shall be tested for conformity with the requirements of this International Standard by the methods of test indicated.

The ground sample for analysis shall be prepared in accordance with ISO 2825.

For determination of the total ash, use the method specified in ISO 928, but carry out the incineration at  $600 \pm 25$  °C.

## 7 Packing and marking

### 7.1 Packing

Whole or ground (powdered) cloves shall be packed in clean and sound containers, made of a material which does not affect the product and protects it from moisture and from the loss of volatile matter.

### 7.2 Marking

#### 7.2.1 Whole cloves

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

- name of the product, and the trade name or brand name, if any;
- name and address of the manufacturer or packer;
- batch or code number;
- net mass;
- grade of the material;
- producing country;

g) any other marking required by the purchaser, such as year of harvest and date of packing (if known).

#### 7.2.2 Ground (powdered) cloves

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

- name of the product, and the trade name or brand name, if any;
- name and address of the manufacture or packer;
- batch or code number;
- net mass;
- any other marking required by the purchaser, such as year of harvest and date of packing (if known).

## Annex

### Recommendations relating to storage and transport

**A.1** The containers of cloves should be stored in covered premises, well protected from the sun, rain and excessive heat.

**A.2** The store room should be dry, free from objectionable odours and proofed against entry of insects and vermin. The ventilation should be controlled so as to give good ventilation under dry conditions and to be fully closed under damp con-

ditions. In a storage warehouse, suitable facilities should be available for fumigation.

**A.3** The containers should be so handled and transported that they are protected from the rain, from the sun or other source of excessive heat, from objectionable odours and from cross-infestation, especially in the holds of ships.

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