

DRAFT STANDARD FOR CLOVES

1. SCOPE

This Standard applies to cloves commonly sold in commerce in their dried or dehydrated form as a spice, defined in Section 2.1 below, offered for direct human consumption, commercial food processing and for repacking if required. The exact species and form bought/sold may be defined by contractual specifications. This standard does not apply to those products when intended for industrial processing.

2. DESCRIPTION

2.1 PRODUCT DEFINITION

Clove is the aromatic floral bud of the clove tree. It belongs to the family Myrtaceae, *Syzygium aromaticum*. It comprises of 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

2.2 STYLES

Cloves may be:

- Whole ; intact
- Cracked/broken ; broken into two or more pieces
- Ground/powdered; processed into powders without any additions.
- Varietal styles; other styles distinctly different from the three above, provided they are labelled accordingly .The size/physical dimensions of each form is determined by contractual agreement between buyer and seller.

Cloves should be treated in an appropriate manner to obtain the above products, by undergoing operations such as threshing, sieving and sifting, washing, drying or dehydrating, crushing and grinding before the final packaging and storage.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 COMPOSITION

Product shall be as described in section 2 and shall conform to the chemical and physical properties set in Tables I and II of this Standard.

3.1.1 Basic Ingredients

Cloves as described in Section 2.

3.2 QUALITY CRITERIA

3.2.1 Infestation

Cloves shall be free from live insects and practically free from dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision).

3.2.2 Odour, flavour and colour:

The product shall have a characteristic aroma and flavour which can vary depending on geo-climatic factors/conditions and shall be free from any foreign odour or flavour.

3.2.3 Classification

Specific grades of cloves shall be set by contractual agreement between buyer and seller. The defects allowed must not affect the general appearance of the product as regards to its quality, keeping quality and presentation in the package.

3.2.4 Chemical and physical characteristics

The product shall be free of any hard or sharp objects longer than 7 mm and 2 mm wide. The product, generic or other, shall comply with the physical requirements specified in tables I and II below.

Table I: Chemical Characteristics for Cloves							
Product Name	Total Ash %w/w (max)	Acid Insoluble Ash % w/w (max)	Moisture Content %w/w (max)	Volatile Oils mL/100g (min)	Volatile oil markers	Bulk Density	Notes
Whole							
cracked							
ground							

Table II: Physical Characteristics for Cloves							
Product Name	Whole insects, dead Count /100 gm (max)	Excreta mammalian mg/kg (max)	Excreta, other mg/Kg (max)	Mold damaged %w/w (max)	Insect defiled/infested %w/w (max)	Extraneous/Foreign matter %w/w (max)	Notes
Whole							
cracked							
ground							

4 FOOD ADDITIVES

No food additives are permitted in the products covered by this standard .

5 CONTAMINANTS

5.1 The product shall comply with the maximum levels of the General Standard for Contaminants and Toxins in Food and Feed (CODEX STAN 193-1995).

5.2 The product shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission. The residual levels of pesticides shall not exceed the limits as per the Codex database for maximum residue limits for pesticides in food as in the table III below:

Table III: Pesticides requirement

Pesticides	Maximum limit (mg/kg)
Aldicard	Absent
Aldrin and Dieldrin	Absent
Azinphos-Methyl	Absent
Cardaryl	Absent
Carbendazin	2.0
Carbofuran	Absent
Cartap	Absent
Chlorfenvinphos	Absent
Chlorothaionnil	10
Chlorpyrifos	0.5
Cyhexatin	0.5
Cypermethrin	0.1
Diazinon	Absent
Dichlofluanid	2.0
Dicloran	10
Dimethoate	1.0
Diquat	0.1
Endosulfan	Absent
Ethion	Absent
Ethoprophos	0.02
Etrimfos	0.1
Fenbutatin oxide	1.0
Fenthion	Absent
Fenvalerate	Absent
Hydrogen phoshide	0.01
Inorganic bromide	400
Iprodione	5.0
Melathion	Absent
Metalaxyl	1.0
Methonyl	1.0
Mevinphos	0.1
Monocrotophos	Absent
Omethoate	Absent
Ortho-Phenyl Phenol	10
Oxanyl	2.0
Permethin	Absent
Phosphanidon	Absent
Phoxim	0.05

Piperronylbutoxide	8.0
Pirimicarb	2.0
Pirimiphos-methyl	1.0
Propanocarb	1.0
Pyrethrins	1.0
Quintozene	Absent
Thiabendazole	0.1
Thiometon	0.5
Triadimefon	Absent
Trichlorfon	Absent
Vinclozolin	3.0

6. FOOD HYGIENE

6.1 It is recommended that Cloves be prepared and handled in accordance with the appropriate sections of the General Principles of Food Hygiene (CAC/RCP 1-1969), the Annex on Spices and Dried Aromatic Herbs to the Code Of Hygienic Practice For Low-Moisture Foods (CAC/RCP 75-2015) and other relevant Codex texts such as codes of hygienic practice and codes of practice.

6.2 The product should comply with any microbiological criteria established in accordance with the Principles for the Establishment and Application of Microbiological Criteria for Foods (CAC/GL 21-1997).

7. WEIGHTS AND MEASURES

Containers shall be as full as practicable without impairment of quality and shall be consistent with a proper declaration of contents for the product.

8. LABELLING and PACKAGING

8.1 The product covered by the provisions of this Standard shall be labelled in accordance with the General Standard for the Labelling of Pre-packaged Foods (CODEX STAN 1-1985). In addition, the following specific provisions apply:

8.2 Name of the Product

8.2.1 The name of the product shall be as described in Section 2.1

8.2.2 The name of the product may include an indication of the style as described in Section 2.2.

8.2.3 Species, variety or cultivar may be listed on the label.

8.3 Labelling of Non-Retail Containers

Information for non-retail containers shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer, packer, distributor or importer, as well as storage instructions, shall appear on the container. However, lot identification, and the name and address of the manufacturer, packer, distributor or importer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

8.4 Packaging

The packaging must not be a source of contamination or migration, should be food grade and must protect the product quality during transportation and storage. It must be free from off odour.