

CODEX ALIMENTARIUS COMMISSION



Food and Agriculture
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Organization

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME CODEX COMMITTEE ON SPICES AND CULINARY HERBS

Eighth Session

REPORT OF IN-SESSION WORKING GROUP (IWG) ON CINNAMON

DRAFT STANDARD FOR SPICES DERIVED FROM DRIED OR DEHYDRATED BARK – REQUIREMENTS FOR CINNAMON

(STEP 3/4)

(Prepared by the group chaired by Brazil and co-chaired by Indonesia, Islamic Republic of Iran and Mexico)

1. SCOPE

This standard applies to spices or culinary herbs derived from dried or dehydrated bark - cinnamon as defined in Section 2.1 below, offered for direct human consumption, or as an ingredient in food processing or for repackaging if required. The exact species bought/sold may be defined by contractual specifications. It excludes the product intended for industrial processing.

2. DESCRIPTION

2.1 Product definition

Cinnamon is a product obtained from the peeled or unpeeled dried or dehydrated bark belonging to the species listed in Table 1:

Table 1: Dried or dehydrated bark - Cinnamon covered by this standard.

Common name	Trade name	Scientific name
[CINNAMON]	Indian cinnamon	<i>Cinnamomum zeylanicum</i> Blume (Syn.: <i>Cinnamomum verum</i>)
	Madagascar cinnamon	
	Seychelles cinnamon	
	Ceylon cinnamon	
[CASSIA CINNAMON] OR [CINNAMON]	Chinese cinnamon	<i>Cinnamomum cassia</i> (L.) J. Presl (Syn.: <i>Cinnamomum aromaticum</i> Nees)
	Indonesia cinnamon	<i>Cinnamomum burmannii</i> (Nees & T. Nees) Blume
	Burmannii cinnamon	
	Korintje cinnamon	
	Padang cassia cinnamon	
	Batavia cassia cinnamon	<i>Cinnamomum loureirii</i> Nees
	Saigon or Vietnamese cinnamon	

2.2 Styles

Cinnamon may be:

- whole/stick/quills: individual, elongated, cylindrical pieces of cinnamon bark curled inward (like a scroll) resulting from the drying process; varying in diameter and has been cut into specific length depend on buyer request.
- cut/pieces/broken: pieces of bark of various shapes and sizes (they may be curled or uncurled).
- ground/powdered: powder obtained by grinding cinnamon considered in this standard (particle size to be determined by contractual agreement between buyer and seller).

Other styles distinctly different from those three are allowed, provided they are labelled accordingly.

2.3 Sizing (optional)

Whole/stick/quills cinnamon may be sized by count per weight, weight, diameter or in accordance with pre-existing trade practice.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Composition

Cinnamon as defined in Section 2.1 shall conform to the requirements contained in Annex I.

3.2 Quality Factors

3.2.1 General

Cinnamon shall be safe and suitable for human consumption.

3.2.2 Odour, flavour, and colour

Cinnamon indicated in Section 2.1. shall have the characteristic odour and flavour considering the geoclimatic factors/conditions, varieties and the main chemical components of the volatile oil indicated in Annex I, Table A1: Chemical characteristics for cinnamon. It shall be free from any foreign odour or flavour, especially from rancidity and mustiness. Cinnamon colour ranges from reddish, light brown, brown or dark brown.

3.2.3 Classification (optional)

When cinnamon is traded as unclassified/ungraded, the chemical and physical requirements in Annex I shall apply as the minimum requirements.

3.2.4 Chemical and physical characteristics

Cinnamon shall comply with the chemical and physical characteristics specified in Annex I, Table A1: Chemical characteristics for cinnamon and Table A2: Physical characteristics for cinnamon. The defects allowed must not affect the general appearance of the product as regards its quality, keeping quality and presentation in the package.

4. FOOD ADDITIVES

Anticaking agents listed in Table 3 of the *General standard for food additives* (CXS 192-1995) are acceptable for use only in ground/powdered form of cinnamon.

5. CONTAMINANTS

The products covered by this standard shall comply with the maximum levels of the *General standard for contaminants and toxins in food and feed* (CXS 193-1995), and shall be produced in accordance with the *Code of practice for the prevention and reduction of mycotoxins in spices* (CXC 78-2017); and other relevant Codex Alimentarius texts.

The products covered by this standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

6. FOOD HYGIENE

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the *General principles of food hygiene* (CXC 1-1969), the *Code of hygienic practice for low-moisture foods* (CXC 75-2015) Annex III on spices and culinary herbs, and other relevant Codex texts.

The products should comply with any microbiological criteria established in accordance with the *Principles and guidelines for the establishment and application of microbiological criteria related to foods* (CXG 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

The products shall be labelled in accordance with the *General standard for the labelling of pre-packaged foods* (CXS 1-1985). In addition, the following specific provisions apply:

8.1 Name of the product

8.1.1 The name of the product shall be the common name as described in Section 2.1.

8.1.2 The style of the product shall be as described in Section 2.2 (Styles).

8.1.3 The trade name and/or the scientific name may be indicated.

8.2 Country of origin and country of harvest

8.2.1 Country of origin shall be declared.

8.2.2 Country of harvest (optional).

8.2.3 Region of harvest and year of harvest (optional).

8.3 Commercial identification

Commercial identification shall be based on:

- Style.
- Class/grade, if applicable.; and
- Particle size (optional).

8.4 Labelling of non-retail containers

The labelling of non-retail containers should be in accordance with the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021).

9. METHODS OF ANALYSIS AND SAMPLING

9.1 Methods of analysis

The methods of analysis highlighted in Annex II, Table A3: Methods of analysis, will be included in CXS 234-1999 after endorsement by CCMAS and the following text will replace the table and will be inserted.

“For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended methods of analysis and sampling* (CXS 234-1999) relevant to the provisions in this standard, shall be used.”

9.2 Sampling plan

To be developed.

ANNEX I

Table A1: Chemical characteristics for Cinnamon.

Product Name	Form/style	Moisture content % w/w (max)	Total ash % w/w (max) on dry basis	Acid insoluble ash % (w/w) (max) on dry basis	Volatile oils ml/100 g (min) on dry basis	Cinnamaldehyde content ml/100 g (min) on dry basis	Coumarin content* (mg/g) max on dry basis
[Cinnamon and Cassia cinnamon]	Whole/ Stick/ Quills	[14] [12] 15	7 5	2 1.5	0.7 1 1.2	[0.7]	0.3
	Pieces/ Cut/ Broken	14 15	7 5	2 1.5	0.7 1 1.2	[0.7]	0.3
	Ground/ Powdered	[14] [12]	7 5	2 1.5	0.5 1.2	[0.5]	0.3

*Note: Only for Ceylon Cinnamon (*Cinnamomum zeylanicum* Blume (Syn.: *Cinnamomum verum*))

Table A2: Physical characteristics for Cinnamon.

Product Name	Form/ Style	Extraneous matter % w/w (max)	Foreign matter % w/w (max)	Mould visible/Mouldy Material % w/w (max)	Dead whole insects count/100g (max)	Insect damage % w/w (max)	Insect fragments count/10 g (max) ground only	Live insects	Excreta mammalian mg/kg (max)	Other Excreta, mg/kg (max)	Rodent filth count/25 g	Off-size (when sized %)
[Cinnamon and Cassia cinnamon]	Whole/ Stick/ Quills	1 [0] [0.5]	0.5 [0]	1 [0] [5]	2 [0]	1 [0]	NA	0	2 [0] [1]	4 [0]	NA	[10]
	Pieces/ Cut/ Cracked/ Broken	1 [0] [0.5]	0.5 [0]	1 [0] [5]	2 [0] [3]	1 [0]	NA	0	2 [0]	4 [0] NA	NA	NA
	Ground/ Powdered	[1] [NA] [0] [0.5]	[0.5] [NA] [0]	1 [0] [5]	NA [2]	NA	[20/10g] [400/50g]	0	0 [2]	0 NA	[1/50g] [11/50g]	NA

Notes: NA = Not applicable. It does not refer to zero. It means that the style of the above product has not been evaluated for this provision and currently does not have values.

Table A3. Methods of analysis (non-exhaustive list of provisions)

Provision	Method	Principle	Type
Moisture	ISO 939	Distillation	I
Volatile oil	ISO 6571	Calculation from moisture and volatile oils, distillation and distillation	I
Total ash	ISO 939 and ISO 928	Calculation from moisture and volatile oils, distillation and distillation	I
Acid insoluble ash	ISO 939 and ISO 930	Calculation from moisture and volatile oils, distillation and distillation	I
[Cinnamaldehyde Content]	[Methanol extract]	[High performance liquid chromatography]	
[Coumarin]	[Methanol extract]	[High performance liquid chromatography]	
Extraneous matter	ISO 927	Visual examination followed by <u>gravimetry</u>	I
Foreign matter	ISO 927	Visual examination followed by <u>gravimetry</u>	I
Visible mould/Mouldy Material	ISO 927	Visual examination followed by gravimetry	I
Dead whole insects	ISO 927	Visual examination (<u>counting</u>)	I
Insect fragments	ISO 927	Visual examination followed by <u>gravimetry</u>	I
Insect damage	MPM: V-8. Spices, Condiments, Flavors, and Crude Drugs (Macroanalytical Procedure Manual, FDA) MPM:V-8. Spices	Visual examination followed by gravimetry	IV
Live insect	ISO 927	Visual examination (counting)	I
Excreta mammalian and Other Excreta	MPM: V-8. Spices, Condiments, Flavors, and Crude Drugs (Macroanalytical Procedure Manual, FDA) MPM:V-8. Spices	Visual examination followed by gravimetry	IV
Rodent filth	ISO 927	Visual examination followed by gravimetry	I