

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
Organization of  
the United Nations



World Health  
Organization

E-mail: [codex@fao.org](mailto:codex@fao.org) - [www.codexalimentarius.org](http://www.codexalimentarius.org)

---

**STANDARD FOR SPICES DERIVED FROM DRIED OR DEHYDRATED FRUITS AND BERRIES:**

**ALLSPICE, JUNIPER BERRY AND STAR ANISE**

**CXS 358-2024**

**Adopted in 2024.**

## 1. SCOPE

This standard applies to spices derived from dried or dehydrated fruits and berries, as defined in Section 2.1 below, offered for direct consumption, as an ingredient in food processing or for repackaging if required. It excludes the products for industrial processing. The exact species bought/sold may be defined by contractual specifications.

## 2. DESCRIPTION

### 2.1 Product definition

Dried or dehydrated fruits and berries belonging to the species are listed in Table 1.

**Table 1: Variety of dried or dehydrated fruits and berries covered by this standard**

|   | Common name   | Trade names     | Scientific name  |
|---|---------------|-----------------|--|
| 1 | Allspice      | Allspice        | <i>Pimenta dioica</i> (L.) Merr. (Myrtaceae)   |
|   |               | Pimento         | <i>Pimenta racemosa</i> var. <i>racemosa</i> Fosberg_                                  |
|   |               | Jamaican pepper | syn <i>Pimenta dioica</i> var. <i>tabasco</i> (Willd. ex Schltld. & Cham.) (Myrtaceae) |
| 2 | Juniper berry | Juniper berry   | <i>Juniperus communis</i> L. (Cupressaceae)  |
| 3 | Star anise    | Star anise      | <i>Illicium verum</i> Hook. f. (Schisandraceae)  |
|   |               | Badian          |  |

### 2.2 Styles

Dried or dehydrated fruits and berries as described in Table 1 may be:

- whole;
- cut/broken; or
- ground/powdered.

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

### 2.3 Sizing (optional)

Individual dried or dehydrated fruits and berries as described in Table 1 may be sized whole or cut when appropriate in accordance with existing trade practices and determined by contractual agreement between buyer and seller. When sized, the size designation and the method used shall be indicated on the package.

## 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 3.1 Composition

Dried or dehydrated fruits and berries as described in Table 1 shall conform to the requirements contained in Annex I.

### 3.2 Quality factors

#### 3.2.1 Odour, flavour and colour

The product shall have a characteristic odour, flavour and colour, which can vary depending on geoclimatic factors/conditions, and shall be free from any foreign odour, flavour and colour, especially from rancidity and mustiness.

#### 3.2.2 Classification (optional)

When dried or dehydrated fruits and berries as described in Table 1 are traded as classified/graded, the provisions in Annex I shall apply as the minimum requirements for the lowest class/grade.

#### 3.2.3 Chemical and physical characteristics

Dried or dehydrated fruits and berries as described in Table 1 shall comply with the requirements specified in Annex I (Table A1: Chemical characteristics and Table A2: Physical characteristics). The defects allowed must not affect the general appearance of the product as regards to 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)<sup>1</sup> are acceptable for use in powdered form of the foods conforming to this standard.

### 4.1 Processing aids

The processing aids used in products conforming to this standard should be consistent with the *Guidelines on substances used as processing aids* (CXG 75-2010).<sup>2</sup>

## 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),<sup>3</sup> the *Code of practice for the prevention and reduction of mycotoxins in spices* (CXC 78-2017),<sup>4</sup> and other relevant Codex texts.

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

## 6. 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),<sup>5</sup> the *Code of hygienic practice for low-moisture foods* (CXC 75-2015),<sup>6</sup> Annex III, 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).<sup>7</sup>

## 7. WEIGHTS AND MEASURES

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

## 8. LABELLING

The products covered by the provisions of this standard shall be labelled in accordance with the *General standard for the labelling of pre-packaged foods* (CXS 1-1985).<sup>8</sup> In addition, the following specific provisions apply:

### 8.1 Name of the product

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

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

Trade name, variety or cultivar may be listed on the label.

### 8.2 Country of origin and country of harvest

Country of origin shall be declared.

Country of harvest (optional).

Region of harvest and year of harvest (optional).

### 8.3 Commercial identification

- style;
- class/grade, if applicable; and
- size if sized (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).<sup>9</sup>

## **9. METHODS OF ANALYSIS AND SAMPLING**

### **9.1 Methods of analysis**

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)<sup>10</sup> relevant to the provisions in this standard, shall be used.

### **9.2 Sampling plan**

To be developed.

## ANNEX I

Table A1: Chemical characteristics for spices derived from dried or dehydrated fruits and berries

| Product name    | Style           | Moisture content % w/w (max)                    | Total ash on dry basis % w/w (max) | Acid insoluble ash on dry basis % w/w (max) | Volatile oil on dry basis ml/100 g (min) |
|-----------------|-----------------|---|------------------------------------|---|--|
| Allspice        | Whole           | 12  | 5                                  | 1   | 2  |
|                 | Cut/broken      | 12  | 5                                  | 1   | 2  |
|                 | Ground/powdered | 12  | 4.5                                | 1   | 1  |
| Juniper berries | Whole           | 22 (for naturally dried)<br>16 (for dehydrated) | 4                                  | 1   | 0.5                                      |
|                 | Cut/broken      | 16  | 4                                  | 1   | 0.5                                      |
|                 | Ground/powdered | 14  | 4                                  | 1   | 0.5                                      |
| Star anise      | Whole           | 10  | 4                                  | 0.5   | 7  |
|                 | Cut/broken      | 10  | 4                                  | 0.5   | N/A                                      |
|                 | Ground/powdered | 8   | 4                                  | 0.5   | N/A                                      |

Note: N/A: (Not applicable) means that this form of the above product has not been evaluated for this provision, and currently there are no values. N/A does not refer to zero.

Table A2: Physical characteristics for spices derived from dried or dehydrated fruits and berries

| Product name    | Form/Style          | Dead whole insects count/100 g (max)* | Mammalian excreta mg/kg(max) † | Mould visible % w/w (max) | Insect defiled/infested % w/w (max) | Extraneous matter % w/w (max) | Foreign matter % w/w (max) | Live insect by count/100 g (max) | Other factors  |
|-----------------|---------------------|---------------------------------------|--------------------------------|---------------------------|-------------------------------------|-------------------------------|----------------------------|----------------------------------|--|
| Allspice        | Whole               | 2                                     | 11                             | 2                         | 1                                   | 0.5                           | 0.5                        | 0                                | Other excreta<br>11 mg/kg (max)                                  |
|                 | Cut/broken          | 2                                     | N/A                            | N/A                       | N/A                                 | 0.5                           | 0.5                        | 0                                |  |
|                 | Ground/<br>powdered | N/A                                   | N/A                            | N/A                       | N/A                                 | N/A                           | N/A                        | 0                                | Insect fragments:<br>30/10 g (max)<br>Rodent hair:<br>1/10 g max |
| Juniper berries | Whole               | 3                                     | 1                              | 1                         | 1                                   | 2 <sup>#</sup>                | N/A                        | 0                                | Stalks 3% w/w<br>(max)<br>Broken <sup>§</sup> 10%<br>w/w (max)   |
|                 | Cut/broken          | 3                                     | 1                              | 1                         | 1                                   | 1                             | 1                          | 0                                |  |
|                 | Ground/<br>powdered | N/A                                   | N/A                            | N/A                       | N/A                                 | N/A                           | N/A                        | 0                                | N/A  |
| Star anise      | Whole               | 2                                     | 8                              | 1                         | 1                                   | 2 <sup>#</sup>                | 1                          | 0                                | Stalks 3% w/w<br>(max)   |
|                 | Cut/broken          | 1                                     | 8                              | 1                         | 1                                   | 1                             | 0.5                        | 0                                |  |
|                 | Ground/<br>powdered | N/A                                   | N/A                            | N/A                       | N/A                                 | N/A                           | N/A                        | 0                                |  |

Notes: \* Dead whole insects: if the total number of whole dead insects found in the total number of the subsamples exceeds the specified value shown in the table.

† Mammalian excreta: if the average of the total number of subsamples exceeds the listed milligram per kg.

<sup>#</sup> Excluding stalks in juniper berries and star anise.

<sup>§</sup> Broken among the whole.

N/A: Not applicable means that this form of the above product has not been evaluated for this provision, and currently there are no values. N/A does not refer to zero.

## NOTES

- 
- <sup>1</sup> FAO and WHO. 1995. *General standard for food additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.
- <sup>2</sup> FAO and WHO. 2010. *Guidelines on substances used as processing aids*. Codex Alimentarius Guideline, No. CXG 75-2010. Codex Alimentarius Commission. Rome.
- <sup>3</sup> FAO and WHO. 1995. *General standard for contaminants and toxins in food and feed*. Codex Alimentarius Standard, No. CXS 193-1995. Codex Alimentarius Commission. Rome.
- <sup>4</sup> FAO and WHO. 2017. *Code of practice for the prevention and reduction of mycotoxins in spices*. Codex Alimentarius Code of Practice, No. CXC 78-2017. Codex Alimentarius Commission. Rome.
- <sup>5</sup> FAO and WHO. 1969. *General principles of food hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.
- <sup>6</sup> FAO and WHO. 2015. *Code of hygienic practice for low-moisture foods*. Codex Alimentarius Code of Practice, No. CXC 75-2015. Codex Alimentarius Commission. Rome.
- <sup>7</sup> FAO and WHO. 1997. *Principles and guidelines for the establishment and application of microbiological criteria related to foods*. Codex Alimentarius Guideline, No. CXG 21-1997. Codex Alimentarius Commission. Rome.
- <sup>8</sup> FAO and WHO. 1985. *General standard for the labelling of pre-packaged foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.
- <sup>9</sup> FAO and WHO. 2021. *General standard for the labelling of non-retail containers of foods*. Codex Alimentarius Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.
- <sup>10</sup> FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999 Codex Alimentarius Commission. Rome.