

**CODEX STANDARD FOR ORANGE JUICE PRESERVED EXCLUSIVELY
BY PHYSICAL MEANS ¹
CODEX STAN 45-1981
(World-wide Standard)**

1. **DESCRIPTION**

Unfermented but fermentable juice, intended for direct consumption, obtained by a mechanical process from the endocarp of sound, ripe oranges (*Citrus sinensis* (L.) Osbeck), preserved exclusively by physical means.² The juice may contain up to 10% m/m of mandarin juice (*Citrus reticulata* Blanco). The juice may have been concentrated and later reconstituted with water suitable for the purpose of maintaining the essential composition and quality factors of the juice.

2. **ESSENTIAL COMPOSITION AND QUALITY FACTORS**

2.1 Soluble Solids

The soluble orange solids content of orange juice (exclusive of added sugars) shall be not less than 10.0% m/m as determined by refractometer at 20 °C, uncorrected for acidity and read as °Brix on the International Sucrose Scales.

2.1.1 Where the juice had been obtained using concentrated juice with the addition of water, the soluble orange juice solids content shall be not less than 11% m/m as determined by refractometer at 20 °C, uncorrected for acidity and read as °Brix on the International Sucrose Scales.

2.2 Sugars

One or more solid sugars, as defined by the Codex Alimentarius Commission, may be added. The total quantity of added sugars shall not exceed 50 g/kg.

2.3 Ethanol Content

The ethanol content shall not exceed 3 g/kg.

2.4 Volatile Acids

Only traces of volatile acids are allowed.

¹ Formerly CAC/RS 45-1971.

² For the purpose of this standard and at this time preservation by physical means does not include ionizing radiation.

2.5 Essential Oils

The essential oils content shall not exceed 0.4 ml/kg.

2.6 Organoleptic Properties

The product shall have the characteristic colour, aroma and flavour of orange juice. Natural volatile orange juice components may be restored to any orange juice from which natural volatile orange juice components have been removed.

2.7 Use of Concentrates

The addition of concentrate to juice is permitted. Only concentrate from orange (*Citrus sinensis* (L.) Osbeck) and mandarine (*Citrus reticulata* Blanco) may be used.

3. CONTAMINANTS

	<u>Maximum level</u>
3.1 Arsenic (As)	0.2 mg/kg
3.2 Lead (Pb)	0.3 mg/kg ¹
3.3 Copper (Cu)	5 mg/kg
3.4 Zinc (Zn)	5 mg/kg
3.5 Iron (Fe)	15 mg/kg
3.6 Tin (Sn)	250 mg/kg ¹
3.7 Sum of copper, zinc and iron	20 mg/kg
3.8 Sulphur dioxide	10 mg/kg

4. HYGIENE

4.1 It is recommended that the products covered by the provisions of this standard be prepared in accordance with the Recommended International Code of Hygienic Practice for Canned Fruit and Vegetable Products (Ref. No. CAC/RCP 2-1969) and the General Principles of Food Hygiene (Ref. No. CAC/RCP 1-1969, Rev. 2-1985) recommended by the Codex Alimentarius Commission.

4.2 When tested by appropriate methods of sampling and examination, the product:

- (a) shall be free from microorganisms capable of development under normal conditions of storage; and
- (b) shall not contain any substances originating from microorganisms in amounts which may represent a hazard to health.

5. WEIGHTS AND MEASURES

5.1 Fill of Container

5.1.1 Minimum Fill

The orange juice shall occupy not less than 90% v/v of the water capacity

¹ These limits remain under review.

of the container. The water capacity of the container is the volume of distilled water at 20 °C which the sealed container will hold when completely filled.

6. MARKING OR LABELLING

6.1 Containers Destined for the Final Consumer

In addition to the requirements of the Codex General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Codex Alimentarius, Volume 1), the following specific provisions apply:

6.1.1 The Name of the Food

6.1.1.1 The name of the product shall be "orange juice", except that where sugar or sugars have been added in a quantity greater than 15 g/kg, the words "x added" shall plainly and conspicuously accompany the name "orange juice", where "x" represents the name or names of the sugar or sugars added.

6.1.1.2 If the ratio of the total soluble solids, as determined in 2.1, to the total titratable acid expressed as anhydrous citric acid is more than 15 to 1, the word "sweetened" may be used in lieu of the statement "x added".

6.1.2 List of Ingredients

6.1.2.1 A complete list of ingredients, including the presence of juices of varieties of *Citrus reticulata*, if any, by common name, shall be declared on the label in descending order of proportion, except that water added for reconstitution of juice according to Section 1 need not be declared.

6.1.2.2 In the case of orange juice made from concentrate, the fact of reconstitution shall be declared in the list of ingredients as follows: "orange juice made from concentrate" or "reconstituted orange juice" or "orange juice made from concentrated orange juice". If there are no ingredients to be listed in accordance with Section 6.1.2.1, the expression "orange juice made from concentrate" or "reconstituted orange juice" or "orange juice made from concentrated orange juice" shall appear on the label.

6.1.3 Additional Requirements

The following additional specific provisions shall apply:

6.1.3.1 No fruit or fruit juices may be represented pictorially on the label except oranges or orange juice.

6.1.3.2 Where orange juice requires to be kept under conditions of refrigeration, there shall be information for keeping and, if necessary, thawing of the product.

6.1.4 Date Marking

The "date of minimum durability" shall be declared by the month and year in uncoded numerical sequence except that for products with a shelf-life of more than 18 months the year will suffice.

6.1.5 Storage Instructions

Where practicable, storage instructions should be in close proximity to the date marking.

6.2 Non-Retail Containers

In the case of orange juice in bulk, the information required by Section 6.1 shall either be given on the container or in accompanying documents, except that the name of the product and the name and address of the manufacturer or packer should appear on the container. However, the name and address of the manufacturer or packer may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

7. METHODS OF ANALYSIS AND SAMPLING

See Part VI of this publication.