

**CODEX STANDARD FOR PROCESSED TOMATO CONCENTRATES<sup>1</sup>****CODEX STAN 57-1981****1. SCOPE**

This standard for Processed Tomato Concentrates does not include the products commonly known as tomato sauce, chili sauce, and ketchup, or similar products which are highly seasoned products of varying concentrations containing characterizing ingredients such as pepper, onions, vinegar, sugar, etc., in quantities that materially alter the flavour, aroma, and taste of the tomato component.

**2. DESCRIPTION****2.1 Product Definition**

2.1.1 Processed tomato concentrate is the product prepared by concentrating the liquid obtained from substantially sound, mature red tomatoes (*Lycopersicon esculentum* P. Mill). Such liquid is strained or otherwise prepared to exclude skins, seeds, and other coarse or hard substances in the finished product.

2.1.2 Salt and other suitable seasoning ingredients may be added.

2.1.3 The product is preserved by physical means.

2.1.4 The concentration shall be 8 or more percent natural tomato soluble solids but not dehydrated to a dry powder or flake form.

**2.2 Product Designation**

Tomato concentrate may be considered "Tomato Puree" or "Tomato Paste" when the concentrate meets these requirements:

2.2.1 **Tomato Puree** - Tomato concentrate that contains not less than 8 percent, but less than 24 percent, of natural tomato soluble solids.

2.2.2 **Tomato Paste** - Tomato concentrate that contains 24 percent or more of natural tomato soluble solids.

**2.3 Acceptance - For Natural Tomato Soluble Solids**

A lot will be considered as meeting the applicable minimum natural tomato soluble solids requirement when:

- (a) the average of the values from all containers or sub-samples tested meets at least the minimum percentage requirement for the concentration as declared, or as

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<sup>1</sup> Formerly CAC/RS 57-1972.

required for the product name or description; and

- (b) no individual test value is more than 7.5% below such minimum declared or required percentage of concentration.

### Examples

| Declarations or Requirements   | Average must be not less than | No individual test value may be less than |
|--|-------------------------------|---|
| (1) "Minimum Solids 20%"   | 20%                           | 18.5%                                     |
| (2) "Solids - 26%-28%"   | 26%                           | 24%                                       |
| (3) "Triple Concentrate"; for example, if lawfully at 45% minimum                                | 45%                           | 41.6%                                     |
| (4) "Tomato Puree"   | 8%                            | 7.4%                                      |
| (5) "Tomato Paste"   | 24%                           | 22.2%                                     |
| (6) "Concentrated Tomato Puree"; for example, if lawfully at 18% minimum                         | 18%                           | 16.6%                                     |
| (7) "Concentrated Tomato Puree"; if lawfully requires a higher minimum than 18%, for example 21% | 21%                           | 19.4%                                     |

### 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

#### 3.1 Permitted Ingredients

##### Seasoning or Flavourings

Salt, spices, natural vegetable products (basil leaf, onions, etc.) but not sugars or other sweeteners: lemon juice (single strength or concentrated) used as an acidulant.

#### 3.2 Quality Criteria

##### 3.2.1 Colour

The product when diluted with water to reach approximately 8 percent natural tomato soluble solids shall have a fairly good red colour, free from abnormal colours for the product.

### 3.2.2 **Texture**

The concentrated product shall have a homogeneous, evenly divided texture indicative of good manufacturing practices.

### 3.2.3 **Flavour**

The product when diluted with water to reach approximately 8 percent natural tomato soluble solids shall have a good flavour characteristic of properly processed tomato concentrates without any objectionable flavour foreign to the product.

### 3.2.4 **Defects**

Processed tomato concentrates shall be prepared from such materials and under such practices that the product is substantially free from extraneous plant materials or similar objectionable substances and shall not contain excessive defects (whether or not specifically mentioned in this standard).

Certain common defects, when so large or numerous or of such contrasting colour or nature as to affect noticeably the appearance or usability of the product, include:

- (a) dark specks or scale-like particles;
- (b) seeds or objectionable particles of seeds;
- (c) objectionable tomato peel because of colour and/or size;
- (d) harmless plant materials other than those used as seasonings;
- (e) mineral impurities - 60 mg/kg based on diluted product of 8% solids;
- (f) other similar and objectionable defects.

### 3.2.5 **Classification of "defectives"**

A container that fails to meet one or more of the applicable quality requirements, as set out in sub-sections 3.2.1 through 3.2.4, shall be considered a "defective".

### 3.2.6 **Acceptance**

A lot will be considered as meeting the applicable quality requirements referred to in sub-section 3.2.5 when the number of "defectives", as defined in sub-section 3.2.5, does not exceed the acceptance number (c) of the appropriate sampling in the Joint FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (Ref. No. CAC/RM 42-1969), (see Codex Alimentarius Volume 13).

4. **FOOD ADDITIVES**

**pH Regulating Agents**

**Maximum level**

Sodium hydrogen carbonate

to raise the pH to a level not above 4.3

Citric acid            }

Malic acid            }

L-Tartaric acid       }

Lactic acid           }

to maintain the pH at a level not above 4.3

5. **CONTAMINANTS**

**Maximum level**

Lead (Pb)

1.5 mg/kg

Tin (Sn)

250 mg/kg calculated as Sn, in final concentrated product

6. **HYGIENE**

6.1 It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 2 (1985) Codex Alimentarius Volume 1), and other Codes of Practice recommended by the Codex Alimentarius Commission which are relevant to this product.

6.2 To the extent possible in Good Manufacturing Practice, the product shall be free from objectionable matter.

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

- shall be free from microorganisms in amounts which may represent a hazard to health;
- shall be free from parasites which may represent a hazard to health; and
- shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

6.4 The diluted product (at approximately 8% natural tomato solids) shall not contain mould filaments in a quantity indicative of unsuitable raw materials or unsanitary processing lines. A guide in determining compliance with these requirements would be a mould count, as determined by the Howard Method (AOAC 965.14, 1990), not in excess of 50% positive fields, based on the diluted product (at approximately 8% natural tomato soluble solids).

## 7. WEIGHTS AND MEASURES

### 7.1 Fill of Container

#### 7.1.1 Minimum Fill

Containers shall be filled as full as commercially practicable having regard for the concentration of the product. When packed in rigid containers, the product shall occupy not less than 90% of the water capacity 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.

#### 7.1.2 Classification of "Defectives"

A container that fails to meet the requirement for minimum fill (90 percent container capacity) of sub-section 7.1.1 shall be considered a "defective".

7.1.3 A lot will be considered as meeting the requirement of 7.1.1 when the number of "defectives", as defined in sub-section 7.1.2, does not exceed the acceptance number (c) of the appropriate sampling plan in the Joint FAO/WHO Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL-6.5) (Ref. CAC/RM 42-1969), (see Codex Alimentarius Volume 13).

## 8. LABELLING

In addition to the requirements of the General Standard for the Labelling of Prepackaged Foods (Ref. CODEX STAN 1-1985, Rev. 1-1991, Codex Alimentarius Volume 1) the following specific provisions apply:

### 8.1 The Name of the Food

8.1.1 The name of the product shall be "Tomato Concentrate" and shall be accompanied by a declaration (as described in sub-section 8.3) of the percentage of natural tomato soluble solids.

8.1.2 The name and declaration of soluble solids may be accompanied or replaced by any name or description customarily and lawfully applied in the country in which the product is sold, except that:

- (a) the descriptions "Tomato Puree" and "Tomato Paste" may only be applied to products complying with the requirement for "Tomato Puree" and "Tomato Paste", respectively, and
- (b) the description "Concentrated Tomato Puree" may only be applied to products with not less than 18% natural tomato soluble solids.

8.1.3 A declaration, as part of the name or in close proximity to the name, shall be made of any seasoning or flavouring which characterizes this product; e.g. "With X", when appropriate.

8.2 **Declaration of the Percentage of Natural Tomato Soluble Solids** (See 8.1.1)

The percentage solids may be included on the label in either of the following manners:

- (i) The minimum percentage of natural tomato soluble solids [Example: "Minimum Solids - 20%"];
- (ii) A range within 2% of the natural tomato soluble solids: [Example: "Solids - 20% to 22%"].

9. **METHODS OF ANALYSIS AND SAMPLING**

See Codex Alimentarius Volume 13.