

**ETHIOPIAN  
STANDARD**

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**Halwa Tehena - Specification**

**ICS: 67.230**

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## Foreword

This Ethiopian Standard has been prepared under the direction of Technical Committee for Food product in general (TC 91) and published by the Institute of Ethiopian Standards (IES).

The standard has been developed to address observed needs and to support the local industry in order to make progress through uprising competitiveness and maintain comparative market advantage both domestically and internationally.

Information has been gathered from various relevant resources in developing it.

Codex Stan 192, General standard for food additives

Codex Stan 193, General standard for contaminants and toxins in food and feed.

EPHI Data, Composition of Foods Commonly used in Ethiopia

Acknowledgement is made for the use of information from the above publication.

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# Halwa Tehena - Specification

## 1. Scope

This Ethiopian standard specifies the requirements for halwa tehenena obtained from tehenena/tehenia/tahini intended for direct human consumption.

## 2. Normative References

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ES ISO 1573, Tea Determination of loss in mass at 103°C

ES ISO 930, Spices and condiments—Determination of acid-insoluble ash

ES ISO 660, Animal and vegetable fats and oils — Determination of acid value and acidity

ES ISO 6637, Determination of mercury content - Flameless atomic absorption method

ES 577, General Principles of Food Hygiene – Recommended Code of Practice

ES 929, Code of Practice – Food Hygiene Management

ES ISO 22002-1, Prerequisite programmes on food safety — Part 1: Food manufacturing

ES ISO 4833-1, Microbiology of the food chain – Horizontal method for the enumeration of microorganisms Part 1: Colony count at 30 °C by the pour plate technique

ES ISO 6579-1, Microbiology of the food chain –Horizontal method for the detection, enumeration and stereotyping of Salmonella—Part1: Detection of salmonella.

ES ISO 21527-2, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds Part 2: Colony count technique in products with water activity less than or equal to 0,95

ES ISO 4831, Microbiology of food and animal feeding stuffs – Horizontal method for the detection and enumeration of Coliforms—Most probable number technique.

ES ISO 6888-1, Microbiology of the food chain — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 1: Method using Baird-Parker agar medium

ES ISO 6888-2, Microbiology of the food chain — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) Part 2: Method using rabbit plasma fibrinogen agar medium.

ES ISO 6888-3, Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) – Part 3: Detection and MPN technique for low numbers.

ES ISO 7251, Microbiology of food and animal feeding stuffs — Horizontal method for the detection and enumeration of presumptive Escherichia coli — Most probable number technique

ES ISO 11290-2, Microbiology of the food chain — Horizontal method for the detection and enumeration of Listeria monocytogenes and of Listeria spp. Part 2: Enumeration method,

ES ISO 6579-1, Microbiology of the food chain –Horizontal method for the detection, enumeration and stereotyping of Salmonella—Part1: Detection of salmonella.

ES ISO 6579-2, Microbiology of food and animal feed – Horizontal method for the detection, enumeration and stereotyping of Salmonella—Part2: Enumeration by a miniaturized most probable number technique.

ES ISO 6579-3, Microbiology of the food chain –Horizontal method for the detection, enumeration and stereotyping of Salmonella–Part3: Guidelines for stereotyping of Salmonella spp.

CES 73, General Standard for Prepackaged Foods – Labelling

### 3. Terms and Definitions

For the purpose of this standard the terms and definitions in the following shall apply.

#### 3.1

##### **halwa tehena**

designates a heat-processed food product made of tehena/tehinia/tahini, natural sugars and other ingredients.

#### 3.2

##### **tehena/tehinia/tahini**

a food product made by grinding peeled and roasted sesame seeds.

#### 3.3

##### **natural sugars**

unprocessed carbohydrates such as sucrose, glucose, fructose, or a mixture of them.

#### 3.4

##### **soap wort extract**

a substance extracted from the bark, leaves or roots of soapwort (*Saponaria officinalis*). It is either called soapwort or saponin.

### 4. Ingredients

#### 4.1 Primary ingredients

4.1.1 Tehena/tehinia/tahini

4.1.2 Natural sugars

4.1.3 Soapwort extract or authorized substitutes

#### 4.2 Optional Ingredients

The following optional ingredients can be used:

4.2.1 Almonds,

4.2.2 pistachios,

4.2.3 walnuts,

4.2.4 dried fruits and/or cocoa powder

4.2.5 any other permitted ingredients

### 5. Requirements

#### 5.1 General requirements

The product shall:

5.1.1 be prepared from raw materials that meet their respective standards.

5.1.2 be free of any rancid taste or smell or any other foreign taste.

5.1.3 retain its natural characteristics, particularly the non-separation of its oil

5.1.4 be free of white or dark spots.

5.1.5 be free from extraneous and foreign matter.

5.1.6 be of a consistent texture that can be easily cut into.

5.1.7 be free of insects and of their body parts and secretions.

5.1.8 be free from mould growth when examined with naked eyes;

## 5.2 Specific Requirements

The product shall conform to the specific physico-chemical requirements given in Table 1 below.

**Table 1 Specific Physico-chemical Requirement for Halwa Tehena**

| Characteristic                                    | Requirement | Test Methods |
|---------------------------------------------------|-------------|--------------|
| Moisture content, %, (m/m), Max.                  | 3           | ES ISO 1573  |
| Tehena, %, (m/m), Min                             | 52          | XXXX         |
| Total sugar (in terms of sucrose), %, (m/m), Max. | 47          | XXXX         |
| Fat content (sesame oil), %, (m/m), Min           | 25          | AOAC 983.23  |
| Acid-insoluble ash, %, (m/m), Max                 | 0.2         | ES ISO 930   |
| Acidity, expressed as citric acid, %, (m/m), Max. | 0.2         | ES ISO 660   |

## 6. Food Additives

Only acidity regulators and emulsifiers listed in Table 3 of the *General Standard for Food Additives* (CODEX STAN 192-1995) are acceptable for use in foods conforming to this Standard.

## 7. 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* (CODEX STAN 193-1995).

### 7.1 Heavy metals

The products covered by this standard shall conform to the maximum levels of heavy metal contaminants in Table 2 below.

**Table 2 Heavy Metal Contaminants**

| Characteristics       | Requirement | Test Methods |
|-----------------------|-------------|--------------|
| Arsenic (mg/kg), Max. | 0.10        | AOAC 942.17  |
| Lead (mg/kg), Max     | 0.1         | AOAC 999.10  |
| Cadmium (mg/kg), Max  | 0.2         |              |
| Mercury (mg/kg), Max  | 0.01        | ES ISO 6637  |

### 7.2 Pesticide residues

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

## 8. Hygiene

**8.1** It is recommended that the products covered by the provisions of this Standard shall be produced, prepared and handled in accordance with the appropriate sections of ES 577, ES 929 and ES ISO 22002-1.

**8.2** The product shall be free from pathogenic microorganisms and shall comply with the microbiological limits indicated in Table 3 below.

Table 3 Microbiological limits for halwa tehena

| Characteristics                   | Requirements    | Test Methods                                    |
|-----------------------------------|-----------------|-------------------------------------------------|
| Total plate count, cfu/g, Max.    | 10 <sup>5</sup> | ES ISO 4833-1<br>ES ISO 4833-2                  |
| Yeasts and molds, cfu/g, Max.     | 10 <sup>2</sup> | ES ISO 21527-1<br>ES ISO 21527-2                |
| Total Coliform, cfu/g, Max        | 10              | ES ISO 4831                                     |
| <i>S. aureus</i> , cfu/g          | Absent          | ES ISO 6888-1<br>ES ISO 6888-2<br>ES ISO 6888-3 |
| <i>E. coli</i> , cfu/g            | Absent          | ES ISO 7251                                     |
| <i>L. Monocytogenes</i> , cfu/25g | Absent          | ES ISO 11290                                    |
| <i>Salmonella</i> , cfu/25g       | Absent          | ES ISO 6579-1<br>ES ISO 6579-2<br>ES ISO 6579-3 |

## 9. Packaging and labelling

### 9.1 Packaging

- 9.1.1** The product shall be packed with clean, sound, free from insect and fungal infestation and the packing material shall be of food grade quality and shall be securely sealed.
- 9.1.2** The product shall be packed in containers which will safeguard the hygienic, nutritional, and organoleptic qualities of the products.
- 9.1.3** The containers, including packaging material, shall be made of substances which are safe and suitable for their intended use. They shall not impart any toxic substance or undesirable odor or flavor to the product.

### 9.2 Labelling

The labeling shall comply with the requirements of CES 73, and shall be legibly and indelibly marked with the following:

- name of the product as "Halwa Tehena" or "Halwa Tahini" or "Halwa Tehenia"
- trade name or brand name, if any;
- name, address and physical location of the producer/ manufacturer/ packer/importer;
- lot/batch/code number;
- list of ingredients in descending order
- production date (DD/MM/YYYY)
- expiry date (DD/MM/YYYY)
- net weight, in SI unit
- storage instruction
- country of origin;
- allergen declaration,
- declare the amount of salt added,
- any other information required by the purchaser

## 10. Sampling Method

Samples shall be taken in accordance with ES ISO xxxxxxxx.

## Bibliography

AOAC 983.23 Fat in Foods: Chloroform-Methanol Extraction Method

AOAC 942.17, Determination of Arsenic in foods - Molybdenum blue method

AOAC 999.10, Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic Absorption Spectrophotometry after dry ashing.

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## Organization and Objectives

The Institute of Ethiopian Standards (IES) is the national standards body of Ethiopia. IES is re-named by the proclamation number 1263/2021, from Ethiopian Standards Agency (ESA) to Institute of Ethiopian standards, with the mandate given by the regulation Number, 193/2010 and proclamation number, 1263/2021.

### IES's objectives are:

- ❖ Develop Ethiopian standards and establish a system that enable to check whether goods and service are in compliance with the required standards,
- ❖ Facilitate the country's technology transfer through the use of standards,
- ❖ Develop national standards for local products and services so as to make them competitive in the international market.
- ❖ Conduct standards related research and provide training and technical support.

### Ethiopian Standards

The Ethiopian Standards are developed by national technical committees which are composed of different stakeholders consisting of educational and research institutes, governmental organizations, certification, inspection, and testing organizations, regulatory bodies, consumer association etc. The requirements and/or recommendations contained in Ethiopian Standards are consensus based that reflects the interest of the TC representatives and also of comments received from the public and other sources. Ethiopian Standards are approved by the National Standardization Council and are kept under continuous review after publication and updated regularly to take account of latest scientific and technological changes.

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