

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
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**STANDARD FOR QUICK-FROZEN FINFISH, UNEVISCERATED AND EVISCERATED**

**CXS 36-1981**

**Adopted in 1981. Revised in 1995 and 2017. Amended in 2013 and 2024.**

**2024 Amendments**

Following decisions taken at the Forty-seventh Session of the Codex Alimentarius Commission in November 2024, amendments were made in Section 6.4 Labelling of non-retail containers by replacing the text with a reference to the *General standard for the labelling of non-retail containers of foods* (CXS 346-2021); and Section 7 Sampling, examination and analyses was amended by replacing methods of analysis and numeric performance criteria with a reference to the *Recommended methods of analysis and sampling* (CXS 234-1999).

## 1. SCOPE

This standard shall apply to frozen finfish uneviscerated and eviscerated.<sup>i</sup>

## 2. DESCRIPTION

### 2.1 Product definition

Frozen finfish suitable for human consumption, with or without the head, from which the viscera or other organs may have been completely or partially removed.

### 2.2 Process definition

The product, after any suitable preparation, shall be subjected to a freezing process and shall comply with the conditions laid down hereafter. The freezing process shall be carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly. The quick-freezing process shall not be regarded as complete unless and until the product temperature has reached -18 °C or colder at the thermal centre after thermal stabilization. The product shall be kept deep frozen so as to maintain the quality during transportation, storage and distribution.

Industrial repacking of quick-frozen products under controlled conditions which maintain the quality of the products followed by the reapplication of the quick-freezing process is permitted.

Quick-frozen finfish, shall be processed and packaged so as to minimize dehydration and oxidation.

### 2.3 Presentation

Any presentation of the product shall be permitted provided that it:

- meets all requirements of this standard; and
- is adequately described on the label to avoid confusing or misleading the consumer.

## 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 3.1 Fish

Quick-frozen finfish shall be prepared from sound fish which are of a quality fit to be sold fresh for human consumption.

### 3.2 Glazing

If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality or shall be clean seawater. Potable water is freshwater fit for human consumption. Standards of potability shall not be less than those contained in the latest edition of the World Health Organization's *Guidelines for drinking-water quality*.<sup>1</sup> Clean seawater is seawater which meets the same microbiological standards as potable water and is free from objectionable substances.

### 3.3 Other ingredients

All other ingredients used shall be of foodgrade quality and conform to all applicable Codex and WHO standards.

### 3.4. Decomposition

The products shall not contain more than 10 mg/100 g of histamine based on the average of the sample unit tested. This shall apply only to species of Clupeidae, Scombridae, Scombrosocidae, Pomatomidae and Coryphaenidae families.

### 3.5 Final product

Products shall meet the requirements of this standard when lots examined in accordance with Section 9 comply with the provisions set out in Section 8. Products shall be examined by the methods given in Section 7.

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<sup>i</sup> It does not apply to fish frozen in brine intended for further processing.

#### 4. FOOD ADDITIVES

Antioxidants used in accordance with Table 1 and Table 2 of the *General standard for food additives* (CXS 192-1995)<sup>2</sup> in food category 09.2.1 (Frozen fish, fish fillets, and fish products, including molluscs, crustaceans, and echinoderms) and its parent food categories are acceptable for use in foods conforming to this standard.

#### 5. HYGIENE

5.1 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>3</sup> the *Code of practice for fish and fishery products* (CXC 52-2003),<sup>4</sup> the *Code of practice for the processing and handling of quick-frozen foods* (CXC 8-1976),<sup>5</sup> and other relevant Codex codes of hygienic practice and codes of practice.

5.2 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>6</sup>

5.3 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission (CAC), the product:

- shall be free from microorganisms or substances originating from microorganisms in amounts which may present a hazard to health in accordance with standards established by the CAC;
- shall not contain histamine that exceeds 20 mg/100 g. This applies only to species of Clupeidae, Scombridae, Scombrotoxicidae, Pomatomidae and Coryphaenidae families; and
- shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the CAC.

#### 6. LABELLING

In addition to the provisions of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985),<sup>7</sup> the following specific provisions apply:

##### 6.1 The name of the food

In addition to the common or usual name of the species, the label, in the case of eviscerated fish, shall include terms indicating that the fish has been eviscerated and whether presented as "head-on" or "headless".

If the product has been glazed with seawater, a statement to this effect shall be made.

The term "quick-frozen", shall also appear on the label, except that the term "frozen" may be applied in countries where this term is customarily used for describing the product processed in accordance with Section 2.2 of this standard.

The label shall state that the product should be maintained under conditions that will maintain the quality during transportation, storage and distribution.

##### 6.2 Net contents (glazed products)

Where the food has been glazed the declaration of net contents of the food shall be exclusive of the glaze.

##### 6.3 Storage instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18 °C or colder.

##### 6.4 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>8</sup>

## 7. SAMPLING, EXAMINATION AND ANALYSES

### 7.1 Sampling

- Sampling of lots for examination of the final product as prescribed in Section 3.5 shall be in accordance with an appropriate sampling plan with an AQL of 6.5. A sample unit is the individual fish or the primary container.
- Sampling of lots for examination of net weight shall be carried out in accordance with an appropriate sampling plan meeting the criteria established by the CAC.

### 7.2 Examination

#### 7.2.1 *Sensory and physical examination*

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with procedures elaborated in the *Recommended methods of analysis and sampling* (CXS 234-1999)<sup>9</sup> and the *Guidelines for the sensory evaluation of fish and shellfish in laboratories* (CXG 31-1999).<sup>10</sup>

### 7.3 Analysis

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

#### 7.3.1 *Determination of net weight of products covered by glaze*

(To be elaborated).

#### 7.3.2 *Thawing*

(To be elaborated).

## 8. DEFINITION OF DEFECTIVES

The sample unit shall be considered defective when it exhibits any of the properties defined below:

### 8.1 Deep dehydration

Greater than 10 percent of the surface area of the block or greater than 10 percent of the weight of fish in the sample unit exhibits excessive loss of moisture clearly shown as white or yellow abnormality on the surface which masks the colour of the flesh and penetrates below the surface, and cannot be easily removed by scraping with a knife or other sharp instrument without unduly affecting the appearance of the fish.

### 8.2 Foreign matter

The presence in the sample unit of any matter which has not been derived from fish (excluding packaging material), does not pose a threat to human health, and is readily recognized without magnification or is present at a level determined by any method including magnification, that indicates non-compliance with good manufacturing and sanitation practices.

### 8.3 Odour and flavour

A sample unit affected by persistent and distinct objectionable odours or flavours indicative of decomposition or of feed.

### 8.4 Texture

Textural breakdown of the flesh, indicative of decomposition characterized by muscle structure which is mushy or paste-like, or by separation of flesh from the bones.

#### 8.4.1 *Flesh abnormalities*

A sample unit affected by excessive gelatinous condition of the flesh together with greater than 86 percent moisture found in any individual fish or sample unit with pasty texture resulting from parasitic infestation affecting more than 5 percent of the sample unit by weight.

### 8.5 Belly burst

The presence of ruptured bellies in uneviscerated fish, indicative of decomposition.

**9. LOT ACCEPTANCE**

A lot shall be considered as meeting the requirements of this standard when:

- the total number of defectives as classified according to Section 8 does not exceed the acceptance number (c) of the appropriate sampling plan with an AQL of 6.5;
- the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any container; and
- the food additives, hygiene and labelling requirements of Sections 4, 5 and 6 are met.

**NOTES**

<sup>1</sup> WHO. 2017. *Guidelines for drinking-water quality: fourth edition incorporating the first addendum*. Geneva. [www.who.int/publications/item/9789241549950](http://www.who.int/publications/item/9789241549950)

<sup>2</sup> FAO and WHO. 1995. *General standard for food additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.

<sup>3</sup> FAO and WHO. 1969. *General principles of food hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

<sup>4</sup> FAO and WHO. 2003. *Code of practice for fish and fishery products*. Codex Alimentarius Code of Practice, No. CXC 52-2003. Codex Alimentarius Commission. Rome.

<sup>5</sup> FAO and WHO. 1976. *Code of practice for the processing and handling of quick-frozen foods*. Codex Alimentarius Code of Practice, No. CXC 8-1976. Codex Alimentarius Commission. Rome.

<sup>6</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>7</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>8</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>9</sup> FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.

<sup>10</sup> FAO and WHO. 1999. *Guidelines for the sensory evaluation of fish and shellfish in laboratories*. Codex Alimentarius Guideline, No. CXG 31-1999. Codex Alimentarius Commission. Rome.