

CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture
Organization of
the United Nations



World Health
Organization

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STANDARD FOR FRESH AND QUICK-FROZEN RAW SCALLOP PRODUCTS

CXS 315-2014

Adopted in 2014. Revised in 2017. Amended in 2016 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 7.4 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 8 Sampling, examination and analysis 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 applies to bivalve species of the Pectinidae family in the following product categories:

- “fresh or quick-frozen scallop meat”, which is the scallop adductor muscle meat;
- “fresh or quick-frozen roe-on scallop meat”, which is the scallop adductor muscle meat and attached roe; and
- “quick-frozen scallop meat”, or “quick-frozen roe-on scallop meat”, with added water and/or solutions of water and phosphates.

Products covered by this standard may be intended for direct human consumption or for further processing.

This standard does not apply to:

- scallop meat that is formed, mixed with extenders, or bound by fibrinogen or other binders; and
- whole scallops (live, fresh or frozen in which the shell and all viscera are attached). These products are included in the *Standard for live and raw bivalve molluscs* (CXS 292-2008).¹

2. DESCRIPTION

2.1 Product definition

2.1.1 *Scallop meat*

Fresh or quick-frozen scallop meat is prepared by completely removing the adductor muscle from the shell and completely detaching the viscera and roe from the adductor muscle of live scallops. Scallop meat contains no added water, phosphates or other ingredients. The adductor muscle is presented whole.

2.1.2 *Roe-on scallop meat*

Fresh or quick-frozen roe-on scallop meat is prepared by completely removing the adductor muscle and attached roe from the shell and detaching all other viscera to the extent practical. The roe should remain attached to the adductor muscle. Roe-on scallop meat contains no added water, phosphates or other ingredients. The adductor muscle and roe are presented whole.

2.1.3 *Quick-frozen scallop meat or quick-frozen roe-on scallop meat processed with added water and/or with solution of water and phosphates*

Quick-frozen scallop meat, or quick-frozen roe-on scallop meat, with added water and/or solutions of water and phosphates contain the products defined in Section 2.1.1. and Section 2.1.2, and a solution of water and/or phosphates and optionally salt.

2.2 Process definition

2.2.1 *Scallop meat and roe-on scallop meat*

After the preparation of scallop meat or roe-on scallop meat under good hygiene practices, the products are rinsed, drained and stored with a method that minimizes absorption of water to the extent that is technologically practicable. The fresh product shall be kept at 4 °C or below. Product intended to be frozen shall be subjected to a freezing process carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly, in accordance with the requirements of the *Code of practice for the processing and handling of quick-frozen foods* (CXC 8-1976).²

The recognized practice of repacking quick-frozen products under controlled conditions which will maintain the quality of the product, followed by the reapplication of the quick-freezing process as defined, is permitted. These products shall be processed and packaged so as to minimize dehydration and oxidation.

2.2.2 *Quick-frozen scallop meat or quick-frozen roe-on scallop meat processed with added water and/or solution of water and phosphates*

After the preparation of scallop meat or roe-on scallop meat under good hygiene practices, the product is rinsed, drained and stored with a method that minimizes absorption of water to the extent that is technologically practicable. The fresh product shall be kept at 4 °C or below. The product is subject to the addition of water and/or phosphate solution (e.g. soaked, sprayed). The amount of added solution shall be controlled and accurately measured for labelling purposes. The product is subjected to a freezing process carried out in appropriate equipment in such a way that the range of temperature of maximum crystallization is passed quickly, in accordance with the requirements of the *Code of practice for the processing and handling of quick-frozen foods*.

The recognized practice of repacking quick-frozen products under controlled conditions which will maintain the quality of the product, followed by the reapplication of the quick-freezing process as defined, is permitted. These products 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 it is adequately described on the label to avoid confusing or misleading the consumer;
- the scallop productⁱ may be packed by count per unit weight; and
- if the scallop product pack exhibits the presence of broken pieces that is > 5 percent of the sample weight, then the product must be presented as “pieces” or terms to that effect.

3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

3.1 Scallop meat and roe-on scallop meat

The product shall be prepared from sound and wholesome scallops which are of a quality suitable to be sold fresh for direct human consumption.

3.2 Quick-frozen scallop meat, or quick-frozen roe-on scallop meat with added water and/or solution of water and phosphates

The product shall be prepared from sound and wholesome scallops which are of a quality suitable to be sold quick-frozen for direct human consumption.

Added water and/or solution of water and phosphates and salt are permitted to the extent that the water uptake is accurately measured and labelled, and their use is acceptable in accordance with the law or custom of the country in which the product is sold. Water shall be of potable quality, phosphates shall be food grade, and salt shall comply with the *Standard for food-grade salt* (CXS 150-1985).³

3.3 Glazing

If glazed, the water used for glazing or for preparing glazing solutions shall be potable waterⁱⁱ or clean water.ⁱⁱⁱ

3.4 Final product

Products shall meet the requirements of this standard when lots examined in accordance with Section 10 comply with the provisions set out in Section 9. Products shall be examined by the methods given in Section 8.

4. FOOD ADDITIVES

4.1 Scallop meat and roe-on scallop meat

No food additives are permitted in the products defined in Section 2.1.1 and Section 2.1.2.

4.2 Quick-frozen scallop meat and quick-frozen roe-on scallop meat processed with phosphates

Acidity regulators, humectants, sequestrants and stabilizers used in accordance with Tables 1 and 2 of the *General standard for food additives* (CXS 192-1995)⁴ 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.

ⁱ Scallop product refers to all the products covered by the standard.

ⁱⁱ World Health Organization [Guidelines for drinking-water quality: fourth edition incorporating the first and second addenda](#).

ⁱⁱⁱ See definition for clean water in the *Code of practice for fish and fishery products* (CXC 52-2003).

5. CONTAMINANTS

The product 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)⁵ and the maximum residue limits for veterinary drugs established by the Codex Alimentarius Commission.

The product shall not contain marine biotoxins exceeding the levels set out in Section 5 of the *Standard for live and raw bivalve molluscs* (CXS 292-2008)¹ and as sampled and analysed in accordance with the same standard.

- (i) Scallop meat – when prepared in accordance with the *Code of practice for fish and fishery products* (CXC 52-2003)⁶ – Section 8 – marine biotoxins are not reasonably likely to present a hazard in scallop meat. While the hazard analysis will consider marine biotoxins as a potential hazard, this hazard will be excluded or included based upon the species and the available data for toxins in that species.
- (ii) Roe-on scallop meat – marine biotoxins could present a possible hazard in roe-on scallop meat and preventive measures should be in place in accordance with the *Standard for live and raw bivalve molluscs*.

6. HYGIENE AND HANDLING

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of *General principles of food hygiene* (CXC 1-1969)⁷ and other relevant Codex texts such as:

- (i) the *Code of practice for fish and fishery products*;
- (ii) the *Code of practice for the processing and handling of quick-frozen foods* (CXC 8-1976);²
- (iii) the *Guidelines on the application of general principles of food hygiene to the control of viruses in food* (CXG 79-2012);⁸
- (iv) the *Guidelines on the application of general principles of food hygiene to the control of pathogenic vibrio species in seafood* (CXG 73-2010).⁹

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).¹⁰

7. LABELLING

In addition to the provisions of the *General standard for the labelling of pre-packaged foods* (CXS 1-1985)¹¹ the following specific provisions apply:

7.1 Name of the food

The products defined in Sections 2.1.1, 2.1.2 and 2.1.3 shall be named in accordance with the law or custom of the country in which the product is sold. For products covered by Section 2.1.3, “added water” shall be part of the name of the product.

In addition to the name identified in Section 7.1, the product shall be identified by common and/or scientific names as determined by the competent authority. The country where the product is sold can determine if the scientific name must be indicated on the label.

There shall appear on the label, reference to the forms of presentation described in Section 2.3, in close proximity to the name of the product in such descriptive terms that will adequately and fully describe the nature of the presentation to avoid misleading or confusing the consumer.

Water added as an ingredient to scallop products shall be declared in the list of ingredients^{iv} and the percentage of scallop meat and/or the percentage of added water shall clearly appear on the label, in accordance with the law and custom in the country in which the product is sold.

^{iv} As prescribed in Sections 4.2.1.8 and 5.1.2 in the *General standard for the labelling of pre-packaged foods* (CXS 1-1985)

7.2 Net contents (glazed products)

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

7.3 Storage instructions

The label should include terms to indicate that the product shall be stored at 4 °C or below for fresh products and at a temperature of -18 °C or below for frozen product processed in accordance with subsection 2.2 of this standard.

7.4 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).¹²

8. SAMPLING, EXAMINATION AND ANALYSIS

8.1 Sampling

8.1.1 Sensory and physical examination and determination of added water

Attribute sampling plan, *General guidelines on sampling* (CXG 50-2004),¹³ Section 4.2, Table 10, using AQL of 6.5 percent.

8.1.2 Determination of net weight

Sampling plans by variables with unknown standard deviation (s-method), *General Guidelines on Sampling*, Section 4.3, Table 14.

8.2 Examination

8.2.1 Sensory and physical examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and in accordance with Section 8.2.2 through 8.2.5, the *Recommended methods of analysis and sampling* (CXS 234-1999)¹⁴ and the *Guidelines for the sensory evaluation of fish and shellfish in laboratories* (CXG 31-1999).¹⁵

8.2.2 Determination of pieces

A scallop meat shall be considered as a scallop piece when the weight of that scallop meat is less than 50 percent of the average weight of ten randomly selected unbroken scallop meats contained in the package. The percentage of scallop pieces in the sample unit can be determined by using the following equation:

$$\% \text{ Scallop Pieces} = \frac{\sum \text{Weight of scallop pieces in a sample unit} \times 100}{\text{Weight of sample unit}}$$

8.2.3 Determination of count

When declared on the label, the count of the scallop meat shall be determined by counting the numbers of whole scallop meat (not including pieces defined above) in the package or representative sample thereof and dividing the count of whole scallop meat by the adjusted deglazed weight (actual deglazed weight subtract the weight of deglazed pieces) to determine the count per unit weight.

8.2.4 Examination for parasites

The presence of readily visible parasites in a sample unit detected by normal visual inspection of the scallops.

8.2.5 Determination of the presence of viscera and roe

Scallop products are examined for the presence of remaining viscera attached to the adductor muscle or loose in the package and remaining roe (scallop meat only).

8.2.6 Determination of added water

In order to verify the conformity with subsections 3.1 and 3.2, a country may establish a scientifically supported criterion for the natural level of moisture in the meat scallop species harvested. Where a country has relevant scientific information on the characteristics of the scallop species it exports, it may approach an importing country to discuss the implementation of this criterion on a species-by-species basis.

8.3 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)¹⁴ relevant to the provisions in this standard, shall be used.

9. DEFINITION OF DEFECTIVES

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

9.1 Deep dehydration

Greater than 10 percent of the weight of the scallop meat or greater than 10 percent of the surface area of the block 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 a sharp instrument without unduly affecting the appearance of the product.

9.2 Foreign matter

The presence in the sample unit of any matter which has not been derived from scallops, 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

9.3 Odour/Flavour/Texture/Colour

Scallop meat affected by persistent and distinct objectionable odours, flavours, texture or colours indicative of decomposition and/or rancidity; or other objectionable odours, flavours, textures and colours not characteristic of the product.

9.4 Parasites

The presence of parasites at an objectionable level.

9.5 Objectionable matter

The presence of sand, shell or other similar particles that is visible in the thawed state or detected by chewing during sensory examination at an objectionable level

9.6 Exceeding level of added water

Level of added water exceeding that declared in the label.

10. LOT ACCEPTANCE

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

- (i) the total number of defectives as classified according to Section 9 does not exceed the acceptance number (c) of the appropriate sampling plan in Section 8.1;
- (ii) where appropriate, the total number of sample units not meeting the count designation or presentation as defined in Section 2.3 does not exceed the acceptance number (c) of the appropriate sampling plan in the Section 8.1. In addition, the average count per unit weight shall be within the declared count range;
- (iii) the average net weight of all sample units is not less than the declared weight, provided there is no unreasonable shortage in any individual container; and
- (iv) the essential composition and quality factors, food additives, contaminants, hygiene and handling and labelling requirements of Sections 3, 4, 5, 6 and 7 are met.

NOTES

¹ FAO and WHO. 2008. *Standard for live and raw bivalve molluscs*. Codex Alimentarius Standard, No. CXS 292-2008. Codex Alimentarius Commission. Rome.

² 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.

³ FAO and WHO. 1985. *Standard for food-grade salt*. Codex Alimentarius Standard, No. CXS 150-1985. Codex Alimentarius Commission. Rome.

⁴ FAO and WHO. 1995. *General standard for food additives*. Codex Alimentarius Standard, No. CXS 192-1995. Codex Alimentarius Commission. Rome.

⁵ 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.

⁶ 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.

⁷ FAO and WHO. 1969. *General principles of food hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

⁸ FAO and WHO. 2012. *Guidelines on the application of general principles of food hygiene to the control of viruses in food*. Codex Alimentarius Guideline, No. CXG 79-2012. Codex Alimentarius Commission. Rome.

⁹ FAO and WHO. 2010. *Guidelines on the application of general principles of food hygiene to the control of pathogenic vibrio species in seafood*. Codex Alimentarius Guideline, No. CXG 73-2010. Codex Alimentarius Commission. Rome.

¹⁰ FAO and WHO. 1997. *Principles and guidelines for the establishment and application of microbiological criteria for foods*. Codex Alimentarius Guideline, No. CXG 21-1997. Codex Alimentarius Commission. Rome.

¹¹ FAO and WHO. 1985. *General standard for the labelling of pre-packaged foods*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

¹² 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.

¹³ FAO and WHO. 2004. *General guidelines on sampling*. Codex Alimentarius Guideline, No. CXG 50-2004. Codex Alimentarius Commission. Rome.

¹⁴ FAO and WHO. 1999. *Recommended methods of analysis and sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.

¹⁵ 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.