

PHILIPPINE NATIONAL STANDARD

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Quick Frozen Lobsters



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Foreword

The Philippine National Standard (PNS) for Quick Frozen Lobsters was adopted from the existing international Codex Standard for Quick Frozen Lobsters (CODEX STAN 95-1995, Rev. 2-2004).

To tailor fit the standard to the Philippines requirements, modifications were made in the format and definition of terms. An electronic solicitation of comments and a stakeholders consultative meeting were conducted by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) in collaboration with the Bureau of Fisheries and Aquatic Resources (BFAR) on February-March, 2010 and July 28, 2010 (Quezon City), respectively. Subsequently, relevant and substantial comments solicited from concerned and competent agencies, and industry-stakeholders were also incorporated in the PNS.

The PNS for Quick Frozen Lobsters aims to provide a common understanding on the scope of the standard, product description, essential composition and quality factors, food additives, hygiene and handling, labelling requirements, methods of sampling, examination and analyses, definition of defectives, and the requirements for product lot acceptance.

Quick frozen lobsters

1 Scope

This standard applies to quick frozen raw or cooked lobsters, rock lobsters, spiny lobsters or crawfish and slipper lobsters, bay lobsters or sand lobsters.¹ Furthermore it applies to quick frozen raw or cooked squat lobsters.

2 References

The titles of the standards and publications referred to in this standard are listed on the back cover.

3 Definition of terms

For the purpose of this standard, the following terms shall mean:

3.1**clean sea-water**

sea-water which meets the same microbiological standards as potable water and is free from objectionable substances

3.2**contaminant**

any substance not intentionally added to food, which is present in such food as a result of the production (including operations carried out in crop husbandry, animal husbandry and veterinary medicine), manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food or as a result of environmental contamination. The term does not include insect fragments, rodent hairs and other extraneous matter

3.3**dehydration**

is the loss of moisture from frozen products through evaporation. This may occur if the products are not properly glazed, packaged or stored. Deep dehydration adversely affects the appearance and surface texture of the product and is commonly known as "freezer burn"

3.4**freezing process**

is a process which is carried out in appropriate equipment in such a way that the range of temperature of maximum crystallisation is passed quickly. The quick freezing process shall not be regarded as complete unless and until the product temperatures has reached -18°C (0°F) or lower at the thermal centre after thermal stabilisation

3.5**food additive**

any substance not normally consumed as a food by itself and not normally used as a typical ingredient of the food, whether or not it has nutritive value, the intentional addition of which to food for a technological (including organoleptic) purpose in the manufacture, processing, preparation, treatment, packing, packaging, transport or holding of such food results, or may

¹ Hereafter referred to as lobster.

be reasonably expected to result (directly or indirectly), in it or its by-products becoming a component of or otherwise affecting the characteristics of such foods. The term does not include contaminants or substances added to food for maintaining or improving nutritional qualities

3.6

glazing

the application of a protective layer of ice formed at the surface of a frozen product, done by spraying with or dipping it into clean seawater, potable water, or potable water with approved additives, as appropriate

3.7

ingredient

any substance, including a food additive, used in the manufacture or preparation of a food and present in the final product although possibly in a modified form

3.8

label

any tag, brand, mark, pictorial or other descriptive matter, written, printed, stencilled, marked, embossed or impressed on, or attached to, a container of food

3.9

lobster

any of several edible marine crustaceans of the families Homaridae, Nephropidae, Palinuridae, Scyllaridae and Galatheidae.

3.10

lot

a definitive quantity of a commodity produced essentially under the same conditions

3.11

potable water

fresh-water fit for human consumption. Standards of potability shall not be less than those contained in the latest edition of the WHO "International Guidelines for Drinking Water Quality"

3.12

quick-frozen

used of food; preserved by freezing sufficiently rapidly to retain flavor and nutritional value or the inherent quality of the product.

3.13

retail

an operation that stores, prepares, packs, serves, or otherwise provides fish, shellfish and their products directly to the consumer, who prepares them for human consumption. This may be free standing seafood markets, seafood sections in groceries or department stores. Products sold may be packaged chilled or frozen and/or full service

4 Description

4.1 Product definition

The product is prepared from edible part of lobsters from the families Palinuridae, Scyllaridae and Galatheidae.

4.2 Process definition

4.2.1 The water used for cooking shall be of potable quality or clean seawater.

4.2.2 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 (0°F) 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.

4.2.3 Quick frozen lobsters shall be processed and packaged so as to minimize dehydration and oxidation.

4.3 Presentation

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

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

4.3.2 The lobster may be packed by count per unit of weight or per package or within a stated weight range. The pack shall not contain a mixture of species.

5 Essential composition and quality factors

5.1 Lobsters

The product shall be prepared from sound lobsters which are of a quality fit to be sold fresh for human consumption.

5.2 Glazing

If glazed, the water used for glazing or preparing glazing solutions shall be of potable quality or shall be clean sea-water. Potable water is freshwater fit for human consumption. Standards of potability shall not be less than those contained in the latest edition of the WHO *International Guidelines for Drinking Water Quality*. Clean sea-water which meets the same microbiological standards as potable water and is free from objectionable substances.

5.3 Other ingredients

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

5.4 Final product

Products shall meet the requirements of this standard when lots examined in accordance with Section 11 comply with the provisions set out in Section 10. Products shall be examined by the methods given in Section 9.

6 Food additives

Only the use of the following additives is permitted.

Additive	Maximum level in the final product
<u>Moisture/Water Retention Agents</u>	
451(i) Pentasodium triphosphate	10 g/kg expressed as P ₂ O ₅ , singly or in combination (includes natural phosphate)
451(ii) Pentapotassium triphosphate	
452(i) Sodium polyphosphate	
452(iv) Calcium polyphosphates	
<u>Preservatives</u>	
221 Sodium sulphite	100 mg/kg in the edible part of the raw product, or 30 mg/kg in the edible part of the cooked product, singly or in combination, expressed as SO ₂
223 Sodium metabisulphite	
224 Potassium metabisulphite	
225 Potassium sulphite	
228 Potassium bisulphite (for use in the raw product only)	
<u>Antioxidants</u>	
300 Ascorbic acid	400 mg/kg
301 Sodium ascorbate	1000 mg/kg
303 Potassium ascorbate	1000 mg/kg

7 Hygiene and handling

7.1 The final product shall be free from any foreign material that poses a threat to human health.

7.2 When tested by appropriate methods of sampling and examination prescribed by the Codex Alimentarius Commission, the product:

- (i) 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 Codex Alimentarius Commission;

- (ii) shall not contain any other substance in amounts which may present a hazard to health in accordance with standards established by the Codex Alimentarius Commission.

7.3 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 Recommended International Code of Practice - General Principles of Food Hygiene (CAC/RCP 1-1969, Rev. 4-2003) and the following relevant Codes:

- (i) The Recommended International Code of Practice for Lobsters [CAC/RCP 24-1978 (under elaboration)];
- (ii) The Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods (CAC/RCP 8-1976, Rev. 3-2008); and
- (iii) The section on the Products of Aquaculture in the Code of Practice for Fish and Fishery Products (CAC/RCP 52-2003, Rev.5-2010).

8 Labelling

In addition to the provisions of the General Standard for the Labelling of Prepackaged Foods (CODEX STAN 1-1985, Amend. 7-2010) the following specific provisions apply:

8.1 Name of the product

The product shall be designated:

- (i) Rock Lobster, Spiny Lobster or Crawfish if derived from species of the family Palinuridae;
- (ii) Slipper Lobster, Bay Lobster or Sand Lobster if derived from species of the family Scyllaridae; and
- (iii) Squat Lobster if derived from the family Galatheididae.

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

8.1.2 In addition to the specified labelling designations above, the usual or common trade names of the variety may be added so long as it is not misleading to the consumer in the country in which the product will be distributed.

8.1.3 Products shall be designated as cooked or raw as appropriate.

8.1.4 If the product has been glazed with sea-water, a statement to this effect shall be made.

8.1.5 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 subsection 4.2 of this standard.

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

8.2 Net contents (glazed products)

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

8.3 Storage instructions

The label shall include terms to indicate that the product shall be stored at a temperature of -18°C (0°F) or colder.

8.4 The words "best before" followed by the date (month and year) indicating end of the period at which the product shall retain its optimum quality attributes at a stated storage condition;

8.5 The name and the address of the manufacturer, packer, distributor, importer or exporter or vendor of the food;

8.6 The label shall indicate the name "Product of the Philippines".

8.7 Labelling of non-retail containers

Information specified above shall be given either on the container or in accompanying documents, except that the name of the food, lot identification, and the name and address of the manufacturer or packer as well as storage instructions shall always appear on the container.

However, lot identification, and the name and address may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

9 Sampling, examination and analyses

9.1 Sampling

9.1.1 Sampling of lots for examination of the product shall be in accordance with an appropriate sampling plan with an AQL of 6.5. In the case of shell on lobster the sample unit is an individual lobster. In the case of shell-off lobster the sample unit shall be at least a 1 kg portion of lobster from the primary container. In the case of squat lobster the sampling unit shall be at least 1 kg portion.

9.1.2 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 Codex Alimentarius Commission.

9.2 Sensory and physical examination

Samples taken for sensory and physical examination shall be assessed by persons trained in such examination and using procedures elaborated in Sections 9.3 through 9.6, Annex A and the Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories (CAC/GL 31 - 1999).

9.3 Determination of net weight

9.3.1 Determination of net weight of products not covered by glaze

The net weight (exclusive of packaging material) of each sample unit representing a lot shall be determined in the frozen state.

9.3.2 Determination of net weight of products covered by glaze (Alternate Methods)

(1) As soon as the package is removed from frozen temperature storage, open immediately and place the contents under a gentle spray of cold water until all ice glaze that can be seen or felt is removed. Remove adhering water by the use of paper towel and weigh the product.

(2) The pre-weighed glazed sample is immersed into a water bath by hand, until all glaze is removed, which preferably can be felt by the fingers. As soon as the surface becomes rough, the still frozen sample is removed from the water bath and dried by use of a paper towel before estimating the net product content by second weighing. By this procedure thaw drip losses and/or re-freezing of adhering moisture can be avoided.

- (3) (i) As soon as the package is removed from frozen temperature storage, place the product in a container containing an amount of fresh potable water of 27°C (80°F) equal to 8 times the declared weight of the product. Leave the product in the water until all ice is melted. If the product is block frozen, turn block over several times during thawing. The point at which thawing is complete can be determined by gently probing the block.
- (ii) Weigh a dry clean sieve with woven wire cloth with nominal size of the square aperture 2.8 mm (ISO Recommendation R565) or alternatively 2.38 mm (U.S. No. 8 Standard Screen.)
- (a) If the quantity of the total contents of the package is 500 g (1.1 lbs) or less, use a sieve with a diameter of 20 cm (8 inches).
- (b) If the quantity of the total contents of the package is more than 500 g (1.1 lbs) use a sieve with a diameter of 30 cm (12 inches).
- (iii) After all glaze that can be seen or felt has been removed and the lobsters separate easily, empty the contents of the container on the previously weighed sieve. Incline the sieve at an angle of about 20° and drain for two minutes.

- (iv) Weigh the sieve containing the drained product. Subtract the mass of the sieve; the resultant figure shall be considered to be part of the net content of the package.

9.4 Determination of count

When declared on the label, the count shall be determined by counting all lobsters or tails in the primary container and dividing the count of lobster by the average deglazed weight to determine the count per unit weight.

9.5 Procedure for thawing

The sample unit is thawed by enclosing it in a film type bag and immersing in water at room temperature (not greater than 35°C). The complete thawing of the product is determined by gently squeezing the bag occasionally so as not to damage the texture of the lobster, until no hard core or ice crystals are left.

9.6 Cooking methods

The following procedures are based on heating the product to an internal temperature of 65-70°C. The product must not be overcooked. Cooking times vary according to the size of the product and the temperature used. The exact times and conditions of cooking for the product should be determined by prior experimentation.

Baking Procedure: Wrap the product in aluminum foil and place it evenly on a flat cookie sheet or shallow flat pan.

Steaming Procedure: Wrap the product in aluminum foil and place it on a wire rack suspended over boiling water in a covered container.

Boil-in-Bag Procedure: Place the product into a boilable film-type pouch and seal. Immerse the pouch into boiling water and cook.

Microwave Procedure: Enclose the product in a container suitable for microwave cooking. If plastic bags are used check to ensure that no odour is imparted from the plastic bags. Cook according to equipment specifications.

10 Definition of defectives

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

10.1 Deep dehydration

Greater than 10% of the weight of the lobster in the sample unit or greater than 10% 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 other sharp instrument without unduly affecting the appearance of the lobster.

10.2 Foreign matter

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

10.3 Odour/flavour

Lobster affected by persistent and distinct objectionable odours or flavours indicative of decomposition or rancidity, or feed.

10.4 Discolouration

Distinct blackening of more than 10% of the surface area of the shell of individual whole or half lobster, or in the case of tail meat and meat presentations distinct black, brown, green or yellow discolourations singly or in combination, of the meat affecting more than 10% of the declared weight.

10.5 Damaged product

Greater than 5% of the lobster product in the sample unit exhibits physical damages such as less tail segments, cut/scars and cracked/crushed shell or in combination of both.

11 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 10 does not exceed the acceptance number (c) of an appropriate sampling plan with an AQL of 6.5;
- (ii) the total number of sample units not meeting the count or weight range designation as defined in Section 4.3 does not exceed the acceptance number (c) of an appropriate sampling plan with an AQL of 6.5;
- (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;
- (iv) the Food Additives, Hygiene and Labelling requirements of Sections 6, 7 and 8 are met.

Annex A

Sensory and Physical Examination

1. Complete net weight determination according to defined procedures in Section 9.3 (de-glaze as required).
2. Examine the frozen lobster for the presence of deep dehydration. Determine the percentage of lobster affected.
3. Thaw using the procedure described in Section 9.5 and individually examine each sample unit for the presence of foreign and objectionable matter.
4. Examine product count and weight declarations in accordance with procedures in Section 9.4.
5. Assess the lobster for odour and discolouration as required.
6. In cases where a final decision regarding the odour/flavour cannot be made in the thawed state, a small portion of the sample unit (100 to 200 g) is prepared without delay for cooking and the odour/flavour confirmed by using one of the cooking methods defined in Section 9.6.

References

The following referenced documents are indispensable for the application 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.

BFAD Bureau Circular No. 2006-0016. Updated List of Food Additives. Bureau of Food and Drugs. Department of Health. Philippines.

CAC/GL 31-1999. Guidelines for the Sensory Evaluation of Fish and Shellfish in Laboratories. Food and Agriculture Organization/World Health Organization. Codex Alimentarius Commission. Rome, Italy.

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