

CHAPTER 2, STANDARD 3**CANNED SHRIMP OR PRAWN STANDARD****1. INTRODUCTION**

This standard for canned shrimp* derives its authority from the Fish Inspection Regulations. It defines minimum acceptability of canned shrimp for taint, decomposition, unwholesomeness and other requirements, other than weight, as defined in the Fish Inspection Act and Regulations and describes methods for determining that acceptability.

* NOTE: Throughout this document, the term "shrimp" will be used to denote both shrimps and prawns.

2. SCOPE

This standard applies to canned shrimp in hermetically sealed containers and prepared from species of any of the following families:

PENAEIDAE, PANDALIDAE, CRANGONIDAE, PALAEMONIDAE.

Canned shrimp shall be prepared from sound, wholesome raw material, processed using good manufacturing practices.

Documents used to determine good manufacturing practice and compliance include:

- 1) International Code of Practice for Low Acid Canned Food CAC/RCP 23-1979.
- 2) Metal Can Defects Identification and Classification Manual, Department of Fisheries and Oceans, Inspection Services, 1989.
- 3) Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5) CAC/RM 42-1969.
- 4) Code of Practice - General Principles of Food Hygiene for Use by the Food Industry in Canada, Revised September 1983, Health Protection Branch, Health and Welfare Canada.
- 5) Recommended International Code of Practice for Shrimps or Prawns, CAC/RCP 17-1978.

3. NOMENCLATURE

- a) The name of the product shall be "Shrimp", "Shrimps" or "Prawns".
- b) If desired, "X Shrimp", "X Shrimps" or "X Prawns" may be used where the "X" is the name of a country or a geographic area from which the shrimps originate.
- c) Size designations are not required on the label, but if used, must be in accordance with the table in section 4.2. A count range may be specified on the label; no tolerances are applicable to count ranges when these are used in the place of size designations.
- d) Any descriptive terms used, including those denoting style of presentation, must accurately reflect the contents of the can.

4. FORMS OF PRODUCT PRESENTATION

Canned shrimp shall be prepared from fresh, frozen or cooked whole and/or broken shrimp, and are usually packed in water. Salt, lemon juice, citric acid, seasonings, sugars and other ingredients, such as permitted additives, may be present.

4.1 Style of Presentation

Canned shrimp may be presented in the following ways:

- a) Peeled (Conventional)
Shrimp which have been peeled and subsequently canned without the intentional removal of the dorsal tract.
- b) Peeled and Deveined (Cleaned)
Shrimp which have been peeled and in addition have had the back cut open and the dorsal tract removed at least up to the last segment of the tail.
- c) Cocktail (Picnic)
Any mixture of shrimp sizes which does not contain more than 15% of the drained weight of the contents (m/m) broken shrimp.
- d) Salad
Any size or mixture of sizes, which does not contain more than 50% m/m broken shrimp in a can.
- e) Broken
Pieces of shrimp consisting of less than four segments. Also, this may denote product containing more than the permitted percentage of broken shrimp.

4.2 Size Designation

Canned shrimp may be presented in the following size designations:

| <u>Size Designations</u> | <u>Maximum Count per 100 g Declared Weight</u> |
|--------------------------|--|
| Extra large or jumbo | 16.6 |
| Large | 24.9 |
| Medium | 45.7 |
| Small | 74.8 |
| Tiny or Minuscule | no limit |

4.3 Other Presentation

Any other presentation of the product may be permitted provided that it:

- a) is sufficiently distinctive from the forms of presentation set out above; and
- b) meets all other Canadian regulatory requirements; and
- c) is adequately described on the label in accordance with all regulatory labelling requirements.

5. SAMPLING

The sampling and tolerance plans at the front of this manual shall be used to determine the acceptability of the lot. The sampling plans dictate the minimum sample size to be taken. If necessary, in the opinion of the inspector, more than the minimum sample size specified may be taken.

- 5.1 Sampling of lots for the sensory examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plan for Prepackaged Foods (AQL 6.5) (CAC/RM 42-1969) except that a lower acceptance number for decomposition shall be used as indicated in the sampling tables.

The tables specify the minimum number of sample units to be used for the following types of inspections:

- a) Level I - Sensory examinations of all products subject to inspection other than lots which are subject to reinspection.
- b) Level II - Sensory examinations of all products which are under reinspection.

5.2 Size of Sample Unit

The sample unit shall consist of a can of shrimp and the entire contents thereof.

6. DESCRIPTION OF DEFECTS

6.1 Taint

A unit will be considered tainted when any of the following conditions are found:

- a) Rancid
Odour characterized by the distinct or persistent odour of oxidized oil; or

Flavour characterized by that of oxidized oil which leaves a distinct bitter aftertaste.

- b) Abnormal
Distinct and persistent uncharacteristic odours or flavours such as burnt or acrid, metallic, or associated with feed, and not defined as rancid or decomposed; or

Flavour or odour resulting from the improper addition or mixing of ingredients.

6.2 Decomposition

A unit will be considered decomposed when any of the following conditions are found:

- a) Odour or flavour
Persistent, distinct and uncharacteristic odour or flavour including but not limited to the following:

fruity, vegetable, musty, yeasty, sour, faecal, ammonia, hydrogen sulphide, putrid.

- b) Discolouration
More than 10% m/m shrimp with faded pigment, liver stain, or black discolouration not caused by the metal container.

- c) Texture
Breakdown of muscle structure characterized by:

- 1) muscle structure which feels dry as though no packing medium had been used; or

- 2) muscle structure which is very soft, mushy or pasty; or
- 3) muscle structure which is rubbery or tough, to the feel, or when chewing.

6.3 Unwholesome

a) Critical Foreign Material

A lot will be considered defective when any of the following conditions are found:

the presence of any material which has not been derived from shrimp (and packing media) and which poses a threat to human health (such as glass, etc.); or

distinct and persistent odour or flavour of any material which has not been derived from shrimp (and packing media) and which poses a threat to human health (such as solvents, fuel oil, etc.).

b) Foreign Material

A unit will be considered defective when the following condition is found:

the presence of any material which has not been derived from shrimp (and packing media) but does not pose a threat to human health (such as insect pieces, sand, etc.).

c) Other Defects

A unit will be considered defective when any of the following conditions are found:

- 1) **Struvite Crystals** (magnesium ammonium phosphate crystals)
Any struvite crystal greater than 5 mm in length.
- 2) **Sulphide Blackening** (smut)
Sulphide blackening affecting greater than 5% of the drained contents.
- 3) **Undesirable Parts**
Any combination of loose or attached shell, head pieces or antennae in excess of 2% of the drained weight.

6.4 Failure to Meet a Standard of Identity

a) Broken Shrimp

A unit will be considered defective for broken shrimp if it fails the following criteria when examined by the method outlined in section 7.

| <u>Size Designation</u> | <u>Maximum Number of Broken Shrimp Permitted (% m/m)</u> |
|-------------------------|--|
| Extra Large, Jumbo | 5 |
| Large | 5 |
| Medium | 5 |
| Small | 10 |
| Tiny | 15 |
| No size designation | 10 |

| <u>Style Designation</u> | |
|--------------------------|------------|
| Picnic or Cocktail | 15 |
| Salad | 50 |
| Broken | no maximum |

- b) Deveining (Cleaning)
 In the case of deveined shrimp, a unit will be considered defective for deveining if it is found to contain more than 5% m/m of improperly cleaned or deveined shrimp, when examined using the method outlined in section 7.
- c) Size Designation
 When a size designation is declared, a unit will be considered defective for size designation if it exceeds the maximum count per 100 g declared weight specified in section 4.2, when examined by the method outlined in section 7.
- d) Count Range
 When a count range is declared, a unit will be considered defective for count range if the count is greater than or less than the range specified on the label, when examined by the method outlined in section 7.

7. EXAMINATION METHODS

- 7.1 Complete external can examination.
- 7.2 Open can and complete drained weight determination, according to defined procedures. A drained weight determination should only be conducted on samples which have equilibrated at room temperature for several hours. This will ensure that any gelled brine has liquified.
- 7.3 Remove product from can. Examine can interior for presence of foreign material, sulphide blackening, struvite, and corrosion or other can interior defects.
- 7.4 Examine liquid and surface of shrimp for presence of struvite crystals,

sulphide blackening, foreign material, or undesirable parts. Assess colour.

7.5 Examine each unit for style of presentation as required:

When a size designation is declared, count the number of whole shrimp present. Calculate the whole shrimp present per 100 g using the following formula:

$$\frac{\text{number of whole shrimp in unit}}{\text{actual drained weight of unit}} \times 100 = \# \text{ shrimp}/100 \text{ g}$$

During this procedure, separate broken pieces and determine the percentage of broken shrimp present. The percentage of broken shrimp may be calculated using the following formula:

$$\frac{\text{weight of broken shrimp}}{\text{actual drained weight of unit}} \times 100 = \% \text{ broken shrimp}$$

Where shrimp is further described on the label (eg. "deveined"), product is examined for compliance. All percentages are calculated based on the actual drained weight of the unit.

7.6 Assess odour. Assess flavour and texture as required.

7.7 Record any defect for that unit on the appropriate worksheet.

8. CLASSIFICATION OF "DEFECTIVES"

A sample unit which contains defects as described in section 6 is classified as a "defective".

9. LOT ACCEPTANCE

A lot will be considered unacceptable when:

- a) any single instance of critical foreign matter occurs; or
- b) the total number of sample units found defective for taint, decomposition or unwholesomeness, individually or in combination, exceeds the acceptance number for the sample size designated in the sampling plans; or
- c) the total number of sample units found defective for decomposition exceeds the acceptance number shown in parentheses for the sample size designated in the sampling plans; or

- d) the total number of sample units found defective for standards of identity (style of presentation) and size designation or count range (if a size designation or count range is declared), exceeds the acceptance number for the sample size designated in the sampling plans.