PART 5 – U.S. Grading Standards and Procedures for Grading

Table of Contents

Chapter 1 – U.S. Grading Standards

Catfish

Scope and product description

(a) These U.S. Standards for Grades apply to products derived from farm-raised, or from rivers and lakes, North American freshwater catfish of the following common commercial species and hybrids thereof:

(1) Channel catfish (*Ictalurus punctatus*)
(2) White catfish (*Ictalurus catus*)
(3) Blue catfish (*Ictalurus furcatus*)
(4) Flathead catfish (*Pylodictis olivaris*)

(b) Fresh products will be packaged in accordance with good commercial practices and maintained at temperatures necessary for the preservation of the product. Frozen products will be frozen to 0ºF (-18ºC) at their center (thermal core) in accordance with good commercial practices and maintained at temperatures of 0ºF (-18ºC) or less.

(c) These Standards for Grades will be implemented in accordance with the guidance set forth in Part II of NOAA Handbook 25, “Inspectors Instructions for Grading North American Freshwater Catfish and Products Made Therefrom”.

(d) The product may contain bones when it is clearly labeled on the principle display panel to show that the product contains bones.

[52 FR 37155, Oct. 5, 1987, as amended at 55 FR 23551, June 11, 1990]

Product presentation

Catfish products may be presented and labeled as follows:

(a) Types-
(1) Fresh, or
(2) Frozen.

(b) Styles-
(1) Skin on, or
(2) Skinless.

(c) Market forms include but are not limited to the following:

(1) Headed and gutted.
(2) Headed and dressed or headed and gutted usually with fins removed. This form may be presented with or without the dorsal spine and with or without the collar bone.
(3) Whole fillets are practically boneless pieces of fish cut parallel to the entire length of the backbone with the belly flaps and with or without the black membrane.

(4) Trimmed fillets are whole fillets without belly flaps.
(5) Fillet strips are strips of fillets weighing not less than ¾ ounce.
(6) Steaks are units of fish not less than 1½ ounces in weight which are sawn or cut approximately perpendicular (30 degrees to 90 degrees) to the axial length or backbone. They have two reasonably parallel surfaces. The number of tail sections that may be included in the package must not exceed the number of fish cut per package).
(7) Nuggets are pieces of belly flaps with or without black membrane and weighing not less than ¾ ounce.

(d) Bone classifications.

(1) Practically boneless fillet.
(2) Bone-in (fillet cut, with bones.)

[52 FR 37155, Oct. 5, 1987, as amended 55 FR 23552, June 11, 1990]

Grades

(a) U.S. Grade A fresh or frozen products will possess good flavor and odor and be within the limits specified for defects for U.S. Grade A quality in Grade Determination of this part.

(b) U.S. Grade B fresh or frozen products will possess reasonably good flavor and odor and be within the limits specified for defects for U.S. Grade B quality in Grade Determination of this part.

(c) U.S. Grade C fresh or frozen products will possess reasonably good flavor and odor and be within the limits specified for defects for U.S Grade C quality in Grade Determination of this part.

Grade determination

(a) *Procedures for grade determination.* The grade will be determined by evaluating the fresh product in the fresh and cooked states or the frozen product in the frozen, thawed, and cooked states in accordance with applicable paragraphs in this section.

(b) *Sampling.* Lot size, number of sample units, and acceptance numbers will be selected in accordance with § 260.61 of this chapter, Tables II, V, or VI as applicable. A sample unit consists of 10 “portions” for market forms (1) and (2) as defined in Product Presentation(c) of this part, or at least 2 pounds of “portions” for market forms (3) through (7). “Portion” is one unit of any of the market forms.

(c) *Evaluation of flavor and odor*

(1) *Definition of flavor and odor*.
(i) Good flavor and odor (minimum requirements for a Grade A product) mean that the product has the normal, pleasant flavor and odor characteristics of the species, and it is free from off-odors and off-flavors of any kind.

(ii) Reasonably good flavor and odor (minimum requirements of Grade B and Grade C products) mean that the product may be somewhat lacking in good flavor and odor characteristics of the species but it is free from objectionable off-odors and off-flavors of any kind.

(2) *Procedure*. For raw odor evaluation, frozen portions are thawed. Fresh or thawed portions are broken apart and the exposed flesh immediately held close to the nose to detect any off-odors. To evaluate cooked flavor and odor, cook the sample units using the procedure referenced in Method of Analysis of this part.

(d) *Examination for physical defects.* Each sample unit will be examined for physical defects using the defect definitions that follow. Deduction points are assigned in accordance with Table I.

(1) *Dehydration* applies to all frozen market forms. It refers to the loss of moisture from the surface resulting in a whitish, dry, or porous condition:

(i) *Slight*: surface dehydration which is not color masking (readily removed by scraping) and affecting 3 to 10 percent of the surface area.

(ii) *Moderate*: deep dehydration which is color masking, cannot be scraped off easily with a sharp instrument, and affects more than one percent but not more than 10 percent of the surface area.

(iii) *Excessive*: deep dehydration which is color masking, and cannot be easily scraped off with a sharp instrument and affects more than 10 percent of the surface area.

(2) *Condition of the product* applies to all market forms. It refers to freedom from packaging defects, cracks in the surface of a frozen product, and excess moisture (drip) or blood inside the package. Deduction points are based on the degree of this defect.

(i) Slight refers to a condition that is scarcely noticeable but that does not affect the appearance, desirability or eating quality of the product.

(ii) Moderate refers to a condition that is conspicuously noticeable but that does not seriously affect the appearance, desirability, or eating quality of the product.

(iii) Excessive refers to a condition that is conspicuously noticeable and that does seriously affect the appearance, desirability or eating quality of the product.

(3) *Discoloration* applies to all market forms. It refers to colors not normal to the species. This may be due to mishandling or the presence of blood, bile, or other substances.

(i) *Slight*: 1/16 square inch up to and including one square inch in aggregate area.

(ii) *Moderate*: greater than one square inch up to and including 2 square inches in aggregate area.

(iii) *Excessive*: over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(4) *Uniformity* applies to size or weight controlled products. It refers to the degree of uniformity of the weights of the portions in the container. It is obtained by weighing individual portions to determine their conformity to declared weights. Uniformity will be assigned in accordance with weight tolerances as follows:

Weight of Portion

0.75 to 4.16 ounces

Moderate: Over 1/8 ounce but not over 1/4 ounce above or below declared weight of portion
Excessive: In excess of 1/4 ounce above or below declared weight of portion

4.17 to 11.20 ounces

Moderate: Over 1/4 ounce but not over 1/2 ounce above or below declared weight of portion
Excessive: In excess of 1/2 ounce above or below declared weight of portion

11.21 to 17.30 ounces

Moderate: Over 1/2 ounce but not over 3/4 ounce above or below declared weight of portion
Excessive: In excess of 3/4 ounce above or below declared weight of portion

(5) *Skinning* cuts apply to skinless market forms. It refers to improper cuts made during the skinning operation as evidenced by torn or ragged surfaces or edges, or gouges in the flesh which detract from a good appearance of the product.

(i) *Slight*: 1/16 square inch up to and including 1 square inch in aggregate area.
(ii) *Moderate:* Over one square inch up to and including 2 square inches in aggregate area.
(iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(6) *Heading* applies to market forms (1) and (2) is defined in Product Presentation(c) of this part. It refers to the presence of ragged cuts or pieces of gills, gill cover, pectoral fins or collar bone after heading. Deduction points also will be assigned when the product is presented with the collar bone and it has been completely or partially removed.

(i) *Slight*: 1/16 square inch up to and including one square inch in aggregate area.
(ii) *Moderate*: Over one square inch up to and including 2 square inches in aggregate area.
(iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(7) *Evisceration* applies to all market forms. It refers to the proper removal of viscera, kidney, spawn, blood, reproductive organs, and abnormal fat (leaf). The evisceration cut should be smooth and clean. Deduction points are based on the degree of defect.

(i) *Slight*: 1/16 square inch up to and including 1 square inch in aggregate area.
(ii) *Moderate*: Over 1 square inch up to and including 2 square inches in aggregate area.
(iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(8) *Fins* refer to the presence of fins, pieces of fins or dorsal spines. It applies to all market forms except headed and gutted or headed and dressed catfish or catfish steaks. Deduction points also will be assigned when the product is intended to have the dorsal spine but it has been completely or partially removed.

(i) *Slight*: Aggregate area up to including one square inch.
(ii) *Moderate*: Over one square inch area up to and including 2 square inches.
(iii) *Excessive*: Over 2 square inches in aggregate area. Also, each additional complete one square inch is again assessed points under this category.

(9) *Bones* (including pin bone) apply to all fillet and nugget market forms. Each bone defect is a bone or part of a bone that is 3/16 inch (0.48 cm) or more at its maximum length or 1/32 inch (0.08 cm) or more at its maximum shaft width, or for bone chips, a length of at least 1/16 inch (0.16 cm). An excessive bone defect is any bone which cannot be fitted into a rectangle that has a length of 1-9/16 inch (3.97 cm) and a width of d inch (0.95 cm). In market forms intended to contain bones, the presence of bones will not be considered a physical defect.

(10) *Skin* refers to the presence of skin on skinless market forms. For semi-skinned forms, a skin defect is the presence of the darkly pigmented outside layers. Points will be assessed for each aggregate area greater than ½ square inch up to and including one square inch.

(11) *Bloodspots* refer to the presence of coagulated blood. *Bruises* refer to softening and discoloration of the flesh. Both bloodspots and bruises apply to all market forms. Points will be assessed for each aggregate area of bloodspots or bruises greater than ½ square inch up to and including one square inch.

(12) *Foreign material* refers to any extraneous material, including packaging material, not derived from the fish that is found on or in the sample. Each occurrence will be assessed.

(13) *Texture* applies to all market forms and refers to the presence of normal texture properties of the cooked fish flesh, i.e., tender, firm, and moist without excess water. Texture defects are described as dry, tough, mushy, rubbery, watery, and stringy.

(i) *Moderate*: Noticeably dry, tough, mushy, rubbery, watery, stringy.

(ii) *Excessive:* Markedly dry, tough, mushy, rubbery, watery, stringy.

(e) *Listing defect points.* Each sample unit is examined for physical defects, using the list of definitions given in this section. The point deductions for defects are listed for each sample unit, and the point values totaled. The total of the defect points determines the sample unit grade. The scoring system is based on a perfect score of zero.

(f) *Grade assignment*. Each sample unit will be assigned a grade in accordance with the limits for defects summarized as follows:

Grade assignment	Flavor and odor	Maximum number of defect points
U.S. Grade A	Good	15
U.S. Grade B	Reasonably Good	30
U.S. Grade C	Reasonably Good	40

If a sample unit has been assigned a grade for flavor and odor different than the grade indicated by the number of defect points, the sample unit grade will be the lower grade.

[52 FR 37155, Oct. 5, 1987, as amended at 55 FR 23552, June 11, 1990]

Tolerances for lot certification

(a) The grade assigned to a lot is the grade indicated by the majority of the sample unit grades provided that the number of sample units in the next lower grade does not exceed the acceptance number as given in the sampling plans contained in §260.61 of this chapter. All of the sample units must meet the provisions of §260.21 of this chapter. In §260.21, the 4 score points are additive, not subtractive.

(b) The grade assigned to a lot is one grade below the majority of all the sample unit grades if either:

(1) The number of sample units in the next lower grade does exceed the acceptance number as given in the sampling plans contained in §260.61 of this chapter, or

(2) The grade of any one of the sample units is more than one grade below the majority of all the sample unit grades.

Hygiene

Products will be processed in official establishments as defined in §260.6 of this chapter and maintained in accordance with Scope and Product Description to Method of Analysis of this part and of the good manufacturing practice regulations contained in 21 CFR Part 110.

Methods of analysis

Product samples will be analyzed in accordance with the "Official Methods Analysis of the Association of Official Analytical Chemists", (AOAC), Fourteenth Edition (1984), section 18.004 (page 331) and sections 32.059 and 32.060 (page 613) which are incorporated by reference. Copies of the AOAC methods may be obtained from AOAC, 1111 North Nineteenth Street, Arlington. VA 22209 and are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC. This incorporation by reference was approved by the Director of the Federal Register on November 4. 1987. These methods are incorporated as they exist on the date of this approval. A notice of any change in the sections of the AOAC methods cited herein will be published in the FEDERAL REGISTER.

TABLE I-DEFECT TABLE SCHEDULE OF POINT DEDUCTIONS OF NORTH AMERICAN FRESHWATER CATFISH AND PRODUCTS MADE THEREFROM

[Per sample unit unless otherwise indicated)

Score factors	Degree of quality variation	Point value
Frozen products		
(1) **Dehydration** Each occurrence affect 3 to 10% of surface are but readily removed by scraping	Slight	5
Affecting more than 1% but not more than 10% of surface area and cannot be easily removed by scraping	Moderate	16
	Excessive	30

Affecting more than 10% of surface area and cannot be easily removed by scraping		
Fresh or Frozen Products		
(2) **Condition of product** (pertains to the entire package or container)	Slight Moderate Excessive	1 3 5
(3) **Discoloration:** 1/16 sq. in. to 1 sq. in Over 1 sq. inch to 2 sq. inch Over 2 sq. inch and each additional complete 1 sq. inch	 Slight Moderate Excessive	 4 9 15
(4) **Uniformity:** Deviation above or below declared weight of portion Weight of portion-Moderate: 0.75 to 4.16 oz 4.17 to 11.20 oz 11.21 to 17.30 oz Weight of portion-Excessive 0.75 to 4.16 oz 4.17 to 11.20 oz 11.21 to 17.30 oz	 Over 1/8 but not over 1/4 oz Over 1/8 but not over 1/2 oz Over 1/8 but not over 3/4 oz Over 1/4 oz Over 1/2 oz Over 3/4 oz	 5 5 5 10 10 10
Fresh or Thawed Products		
(5) Skinning cuts (skinless market forms only) 1/16 sq. in. to 1 sq. in Over 1 sq. inch to 2 sq. inch Over 2 sq. inch and each additional complete 1 sq. inch	 Slight Moderate Excessive	 1 3 8
(6) Heading (H&G or H&D fish only): 1/16 sq. in. to 1 sq. in Over 1 sq. inch to 2 sq. inch Over 2 sq. inch and each additional complete 1 sq. inch	 Slight Moderate Excessive	 5 16 30
(7) Evisceration: 1/16 sq. in. to 1 sq. in Over 1 sq. inch to 2 sq. inch 2 sq. inch and over	 Slight Moderate Excessive	 5 16 30
(8) Fins: Up to 1 sq. in Over 1 sq. inch to 2 sq. inch Over 2 sq. inch	 Slight Moderate Excessive	 1 5 10
(9) Bones (including pin bone): Bones : 3/16 in. long or 1/32 in. wide Bone chip: 1/16 in. long Excessive: 1 3/16 in. long by 3/8 in. wide rectangle	 Each occurrence Each occurrence Each occurrence	 5 5 10
(10) Skin (skinless market forms only): Over 1/2 sq. in. to 1 sq. in.	Each occurrence	5

Score factors	Degree of quality variation	Point value
(11) Bloodspots, bruises: Over 1/2 sq. in. to 1 sq. in.	Each occurrence	5
(12) Foreign matter: Harmless material	Each occurrence	4
Cooked Products		
(13) Texture	Moderate Excessive	5 16

Back to top

Chilled or Frozen Shrimp

1. Introduction
   The ***US Grade Standard for Chilled or Frozen Shrimp*** is a set of workmanship and sensory quality criteria that set forth the *NOAA Seafood Inspection Program (SIP) Requirements* that must be met by designated product lots bearing NOAA SIP Official Insignia.

2. Scope
   The US Grade Standard for Chilled or Frozen Shrimp applies to shrimp that meet the following Product Definition and Product Description.

   §2.1 - Product Definition

   This standard shall apply to freshwater or saltwater shrimp of any species. Shrimp shall not contain any additional ingredient except those used as moisture retention agents.

   2.1.1 Whole Shrimp
   For shrimp less than or equal to (≤) 70 count per pound, any individual shrimp consisting of at least 5 segments of unbroken and undamaged shrimp flesh is a whole shrimp.

   For shrimp greater than (>) 70 count per pound, any individual shrimp consisting of at least 4 segments of unbroken and undamaged shrimp flesh is a whole shrimp.

   2.1.2 Non-Whole Shrimp
   Shrimp assessed as broken, damaged, and/or shrimp pieces (see Appendix A) are non-whole shrimp. This does not include unusable material.

   Please note: Certain Workmanship Quality Attributes (WQA) assessments require evaluation of whole shrimp only while others require evaluation of both whole shrimp and non-whole shrimp.

   §2.2 - Product Description

   This standard applies to chilled or frozen shrimp presented to the buyer or consumer in any combination of the following **product types**, **product styles**, and **product forms**.

Product Types	Product Styles	Product Forms
• Chilled and frozen, unglazed • Block frozen, glazed	• Round, head-on • Round, head-off • Butterfly	• Unpeeled, tail-on • Unpeeled, tail-off • Peeled, tail-on • Peeled, tail-off • Peeled and deveined, tail-on • Peeled and deveined, tail-off

• Individually Quick Frozen (IQF), glazed		

2.2.1 Product Style Definitions

2.2.1.1 Round, Head-On
Shrimp that are sold with the head still attached.

2.2.1.2 Round, Head-Off
Shrimp that have the head completely removed, but the shell and tail fan remain.

2.2.1.3 Butterfly
In addition to having the head, shell, and vein removed, the peeled segments of the shrimp have been split longitudinally through the dorsal axis into two sections which remain attached on the ventral side.

2.2.2 Product Form Definitions

2.2.2.1 Unpeeled, tail-on
Shrimp with the shell and tail present.

2.2.2.2 Unpeeled, tail-off
Shrimp with the shell present, but the tail is removed.

2.2.2.3 Peeled, tail-on
Shrimp with the shell removed, but with the shell on the sixth segment present or absent, and the tail present.

2.2.2.4 Peeled, tail-off
Shrimp with the shell and tail removed.

2.2.2.5 Peeled and deveined, tail-on
Shrimp with the shell and vein removed, but with the shell on the sixth segment present or absent, depending on market form, and the tail present.

2.2.2.6 Peeled and deveined, tail-off
Shrimp with the shell, vein, and tail removed.

3. Sampling Plan[1]

For each designated lot, lot quality conformance is based on a representative sample (sample size) as outlined in the Seafood Inspection Manual, Part 4, Chapter 17.

§3.1 - Sample Unit Size

A representative sample unit will be used for net weight determination and lot quality assessment. If the sample unit size is less than the representative sample unit specified below, the entire sample unit will be used.

[1] National Institutes of Standards and Technology, US Department of Commerce, Engineering Statistics Handbook, 3.3.3 Define Sampling Plan (link).

3.1.1 Shrimp Under 70 Count per Pound
For shrimp under 70 count per pound (0.45 kg) a representative 2-pound (0.91 kg) sample unit will be used.
3.1.2. Shrimp 70-250 Count per Pound
For shrimp 70-250 count per pound (0.45 kg), a representative 1-pound (0.45 kg) sample unit will be used.
3.1.3 Shrimp over 250 Count per Pound
For shrimp over 250 count per pound 0.45 kg), a representative 8 ounce (0.23 kg) sample unit will be used

4. Eligibility for use of NOAA SIP Official Insignia
Final lot quality determination of high, medium, or acceptable quality (based on the assessment of individual sample units and overall lot conformance) governs the eligibility for use of NOAA SIP Official Insignia.

Eligibility for use of NOAA SIP Official Insignia	
Lot Quality Determination	**NOAA SIP Official Insignia**
High	US Grade A Shield PUFI Mark
Medium	PUFI Mark
Acceptable	None

5. Requirements for Use of NOAA SIP Official Insignia
For use of NOAA SIP Official Insignia, chilled and frozen shrimp covered by this US Grade Standard must meet:

- Regulatory Requirements
- NOAA SIP Production Requirements
- Quality Assessment Requirements

§5.1 - Regulatory Requirements
In order to enter commerce, designated lots:

5.1.1 - Must meet label regulations, and
5.1.2 - May not be adulterated.

§5.2 - NOAA SIP Production Requirements
Designated lots must meet applicable NOAA SIP Production Requirements.

5.2.1 - None for this US Grade Standard

§5.3 - Quality Assessment Requirements
Each sample unit shall be assessed for Workmanship Quality Attributes and Sensory Quality

Attributes and designated high, medium, or acceptable quality based on the sample unit quality assessment.

5.3.1 - **Workmanship Quality Attributes**
5.3.1.1 - Unusable shrimp material, and
5.3.1.2 - Shrimp that are atypical, not uniform, discolored, broken, damaged, dehydrated, improperly deveined, and improperly processed.

5.3.2 - Sensory Quality Attributes
5.3.2.1 - Odor/Flavor, and
5.3.2.2 - Texture

6. Sample Unit Quality Assessment

§6.1 - Workmanship Quality Attributes - For each *Workmanship Quality Attribute,* a sample unit may be assessed nonconformance points by using a combination of a (1) numerical value for a percent by weight, ratio by weight, or percent by count; and (2) multiplication factor as outlined in the Appendices A and B.

The *Sample Unit Quality Assessment* for *Workmanship Quality Attributes* is designated *High*, *Medium,* or *Acceptable* based on the total nonconformance points for the sample unit.

Workmanship Quality Attributes	
Total Points	**Sample Unit Quality Assessment**
≤ 20	High
>20 - ≤ 50	Medium
> 50	Acceptable

§6.2 - Sensory Quality Attributes - For *Sensory Quality Attributes*, each sample unit shall be evaluated for (1) *Odor/Flavor* and (2) *Texture.* The *Sample Unit Quality Assessment* for *Sensory Quality Attributes* is designated (1) *High or* (2) *Acceptable* based on the lowest quality category for the sample unit.

Sensory Quality Attributes		
Odor/Flavor	**Texture**	**Sample Unit Quality Assessment**
High	High	High
Acceptable		Acceptable
High	Acceptable	Acceptable
Acceptable		

7. Lot Quality Determination

§7.1 - Workmanship Quality Lot Determination - The determination is based on a sample size (n) and acceptance number (c) as outlined in the Seafood Inspection Manual, Part 4.

7.1.1 - **The acceptance number (c) is not exceeded.**
7.1.1.1 - The highest quality assessment assigned to a single sample unit for Workmanship Quality Attributes.

7.1.2 - **The acceptance number (c) is exceeded.**
7.1.2.1 - The lowest quality assessment assigned to a single sample unit for Workmanship Quality Attributes.

§7.2 - Sensory Quality Lot Determination - The lowest quality assessment assigned to a single sample unit for Sensory Quality Attributes.

§7.3 - Lot Quality Determination - The lowest determination assigned to either Workmanship Quality Lot Determination or Sensory Quality Lot Determination.

Lot Quality Determination and Use of NOAA SIP Official Insignia			
If Workmanship Quality Lot Determination is…	**…and Sensory Quality Lot Determination is…**	**…then Lot Quality Determination is…**	**…and the lot is eligible for use of the following NOAA SIP Official Insignia.**
High	High	High	US Grade A Shield PUFI Mark
Medium	High	Medium	PUFI Mark
Acceptable	High	Acceptable	None
High, Medium, or Acceptable	Acceptable	Acceptable	None

Appendix A **Workmanship Quality Attributes - Definitions and Assessments**	
Deglazed or Thawed State	
Definitions	**Assessments**

Broken Shrimp: shrimp with a break in the flesh more than or equal to ½ of the shrimp's thickness where the break occurs. ● For shrimp less than or equal to (≤) 70 count per pound the break results in fewer than 5 segments. ● For shrimp greater than (>) 70 count per pound the break results in fewer than 4 segments.	**Percent by Weight**
Damaged Shrimp: shrimp that are crushed, mutilated, or with partial breaks in the flesh less than ½ of the shrimp's thickness. The damage materially affects the appearance and usability of the product.	
Shrimp Pieces: shrimp that are separated into two or more parts. ● For shrimp less than or equal to (≤) 70 count per pound the pieces are fewer than 5 consecutive segments. ● For shrimp greater than (>) 70 count per pound the pieces are fewer than 4 consecutive segments.	
Unusable Shrimp Material: any material derived from the shrimp that is not shrimp flesh, including but not limited to, detached antennae, detached flippers (tail fins), detached heads, detached shells, and detached walking legs.	
Uniformity of Size: the degree of uniformity of whole shrimp based on the weight ratio of the largest shrimp to the smallest shrimp in the sample unit.	**Ratio by Weight**
Atypical Shrimp: shrimp that exhibit any pronounced deviations from the normal appearance of shrimp including but not limited to ● **Abnormal conditions**: unusual flesh and/or shell conditions, other than those leading to discoloration, such as excessive sliminess or excessive soft shell. ● **Diseased conditions**: unusual flesh and/or shell conditions, not zoonotic in origin, affecting appearance and/or texture, separate and distinct from discoloration workmanship quality attributes.	**Percent by Count**
Dehydrated Shrimp: noticeable dry, white fibrous appearances on the surface of the flesh that is present in the frozen state and present in the thawed state. **Note:** If the shrimp are shell-on, and dehydration is evident on the shell surface, it is necessary to remove the shell to determine if the dehydration is present on the shrimp's flesh.	**Percent by Count**
Discolored Shrimp: shrimp that exhibit discoloration including, but not limited to, black spots. ● **Black spots** refers to shrimp with three or more dark spots that penetrate the flesh and cause the flesh to be black or darkened.	**Percent by Count**
Improperly Deveined Shrimp: deveined shrimp with the presence of a dark vein (alimentary canal) containing sand, sediment, or roe that should have been removed. ● For shrimp with an actual count per pound of ≤ 70, this defect is assessed when there are areas of dark vein or roe that when combined are longer than one segment. ● For shrimp with an actual count per pound of >70, this defect is assessed when there are areas of dark vein or roe that when combined are longer than two segments.	**Percent by Count**

Improperly Processed Shrimp: shrimp that are, including but not limited to, improperly cleaned end, improperly or inadvertently peeled, and improperly headed shrimp. ● **Improperly cleaned end** refers to head-off shrimp that are not cleanly processed resulting in the presence of non-flesh residue. ● **Improperly or inadvertently peeled**, refers to shrimp with the presence or absence of full shell segments, swimmerets, and tail fins, depending upon the product form. ● **Improperly headed shrimp** refers to the presence or absence of the shrimp head depending upon the product style.	**Percent by Count**

Appendix B[2]

Workmanship Quality Attributes – Quality Assessment Calculations

(Please note: calculations are rounded to the nearest hundredths.)

Deglazed or Thawed State

For each Workmanship Quality Attribute, a sample unit is assessed nonconformance points by determining the percent by weight, ratio by weight, or percent by count and then multiplying the numerical value by the multiplication factor.

Percent by Weight (PW)	**Points**				
Broken Shrimp, Shrimp Pieces, Damaged Shrimp, Unusable Shrimp Material					
Actual Count per Pound	**≤ 40**	**> 40 – 70**	**> 70 – 130**	**> 130 – 250**	**> 250**
$\text{PW} = \left[\left(\frac{Wt\ of\ Broken,Pieces,Damaged,and\ Unusable\ Material}{Net\ Weight\ of\ Sample\ Unit}\right) X\ 100\right]$	Round (PW x 1.75)	Round (PW x 1.75)	Round (PW x 1.75)	Round (PW x 1.75)	Round (PW x 1.75)
Weight Ratio (WR)	**Points**				
Actual Count per Pound	**≤ 40**	**> 40 – 70**	**> 70 – 130**	**> 130 – 250**	**> 250**
Uniformity of Size Use 10% of the Number of Whole Shrimp, Rounded-Up					
$WR = \left(\frac{Weight\ of\ the\ Largest\ Whole\ Shrimp}{Weight\ of\ the\ Smallest\ Whole\ Shrimp}\right)$	WR ≥ 1.50 Round ($WR\ x\ 2.00$)	WR ≥ 1.75 Round ($WR\ x\ 2.00$)	WR ≥ 2.00 Round ($WR\ x\ 1.50$)	WR ≥ 2.50 Round ($WR\ x\ 1.00$)	Not Applicable
Percent by Count (PC)	**Points**				
Actual Count per Pound	**≤ 40**	**> 40 – 70**	**> 70 – 130**	**> 130 – 250**	**> 250**

[2] When count per pound is not declared on the label, in the case of Salad Shrimp, an eight (8) ounce subsample should be used to determine count per pound. This determination will serve as the actual count per pound used for Appendix B.

Atypical Shrimp					
$PC = \text{Round}\left[\left(\frac{Number\ of\ Atypical\ Shrimp}{Number\ of\ Whole\ Shrimp}\right)\ X\ 100\right]$	Round (*PC x 1.75*)	Round (*PC x 1.75*)	Round (*PC x 1.75*)	Round (*PC x 1.75*)	Round (*PC x 1.75*)
Dehydrated Shrimp					
$PC = \text{Round}\left[\left(\frac{Number\ of\ Dehydrated\ Shrimp}{Number\ of\ Whole\ Shrimp}\right)\ X\ 100\right]$	Round (*PC x 1.25*)	Round (*PC x 1.25*)	Round (*PC x 1.25*)	Round (*PC x 1.25*)	Round (*PC x 1.25*)
Discolored Shrimp					
$PC = \text{Round}\left[\left(\frac{Number\ of\ Discolored\ Shrimp}{Number\ of\ Whole\ Shrimp}\right)\ X\ 100\right]$	Round (*PC x 1.00*)	Round (*PC x 1.00*)	Round (*PC x 1.00*)	Round (*PC x 1.00*)	Round (*PC x 1.00*)
Improperly Deveined Shrimp					
$PC = \text{Round}\left[\left(\frac{Number\ of\ Improperly\ Deveined\ Shrimp}{Number\ of\ Whole\ Shrimp}\right)\ X\ 100\right]$	Round (*PC x 1.00*)	Round (*PC x 1.00*)	Round (*PC x 0.75*)	Round (*PC x 0.75*)	Round (*PC x 0.75*)
Improperly Processed Shrimp[3]					
$PC = \text{Round}\left[\left(\frac{Number\ of\ Improperly\ Processed\ Shrimp}{Number\ of\ Whole\ Shrimp}\right)\ X\ 100\right]$	Round (*PC x 1.00*)	Round (*PC x 1.00*)	Round (*PC x 0.75*)	Round (*PC x 0.75*)	Round (*PC x 0.75*)

Chilled or Frozen Shrimp Inspection Instructions

Part 1 – Introduction

The ***US Grade Standard for Chilled or Frozen Shrimp*** stipulates the NOAA SIP requirements that must be met for products to bear NOAA SIP official insignia.

Scope

The following ***NOAA SIP Product Inspection Instructions*** provide step-by-step directions and related guidance on how to complete and record regulatory compliance inspection results and NOAA SIP conformance inspection results using the ***NOAA SIP Supplemental Worksheet and NOAA FORM 89-821***.

Part 2 – Follow the *NOAA SIP Inspection Instructions* found in Sections 1, 2, 3, and 4 to complete the NOAA FORM 89-821 and Supplemental Worksheet

The Instructions are divided into four sections, each section is sequenced in the order that each activity is to be performed.

Section 1 – The Lot Parameters

[3] For shrimp that have a declared count per pound greater than 250, only assess for improperly or inadvertently peeled.

To establish key details for each lot evaluated for regulatory compliance, the individual performing the inspection will complete Administrative Information and Product Description Information.

Section 2 – Regulatory Compliance Inspection Results
All foods, including fish and fishery products, must adhere to labeling regulations and be free from any adulteration. The results of Regulatory Compliance Inspection activities will determine whether a lot appears to meet the necessary regulatory requirements for entry into commerce.

Section 3 – NOAA SIP Quality Inspection Results
To meet NOAA SIP requirements for use of NOAA SIP official insignia, all foods, including fish and fishery products, must meet labeling regulations and must meet quality assessment criteria.

Section 4 – Finalized Inspection Documentation
To finalize the inspection documentation, the individual performing the inspection will complete the NOAA SIP Official Scoresheet 89-821 by entering any relevant comments/observations and their wet (ink) or electronic signature.

Section 1 - Lot Parameters

The completion of lot parameters information establishes the basis for the subsequent inspection activities.

Complete the NOAA FORM 89-821 for Chilled or Frozen Shrimp.

Step 1 – Complete the Administrative Information for the fish or fishery product lot.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	SCORESHEET For: CHILLED OR FROZEN SHRIMP - Supersedes NOAA FORM 89-860			U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION					PAGE OF PAGES DATE
CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER			POUNDAGE	SPECIES	ORIG. COUNTRY
				NUMBER	SIZE	KIND			
PRINCIPAL TITLE OF LABEL				PACKER OR DISTRIBUTOR					

Instructions:

1. Record the PAGE OF PAGES.
2. Record the DATE.
3. Record the CO. CODE OR APPLICANT.
4. Record the INSPECTOR'S NO.
5. Record the INSPECTION TYPE.
6. Record the REF. LOT NO.
7. Record the CONTAINER (NUMBER, SIZE, and KIND).
    a. Container - refers to the master case.
    b. Number - number of master cases that comprise the lot.
    c. Size - weight of the master case.
    d. Kind - number and weight of primary (24/12oz, 4/3#)
8. Record the POUNDGE.
9. Record the SPECIES.
10. Record ORIG. COUNTRY.
11. Record the PRINCIPAL TITLE OF LABEL.
12. Record the PACKER OR DISTRIBUTOR.

In the example below: the Page of Pages is **1 of 1**, the Inspection Date is **6/11/24**, the Co. Code or Applicant is **Fisherman's Best Seafood**, the Inspector's No. is **3421**, the Inspection Type is **Grade A,** the Ref. Lot No. is **1234ASWE**, the Container (Number, Size, and Kind) is **1200**, **10 lbs.**, **5/2 #**, the poundage is **12,000**, the Species is **Vannamei**, the Orig. Country is **Thailand**, the Principal Title of Label is **Fisherman's Best Cooked Shrimp P&D Tail - off 26/30**, and the Packer or Distributor is **Fisherman's Best Seafood Inc**.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	SCORESHEET For: CHILLED OR FROZEN SHRIMP - Supersedes NOAA FORM 89-860			U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION				PAGE OF PAGES 1 : 1 DATE 6/11/24
CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER			POUNDAGE	SPECIES	ORIG. COUNTRY
				NUMBER	SIZE	KIND			
Fisherman's Best Seafood	3421	Grade A	1234ASWE	1200	10	5/2#	12,000	Vannamei	Thailand
PRINCIPAL TITLE OF LABEL	Fisherman's Best Cooked Shrimp P&D Tail - off 26/30			PACKER OR DISTRIBUTOR			Fisherman's Best Seafood Inc.		

Section 2 - Regulatory Compliance Inspection Results

The results of Regulatory Compliance Inspection activities will determine whether a lot appears to meet the necessary regulatory requirements for entry into commerce

Step 1 –Follow the **NOAA SIP Regulatory Compliance Inspection Procedures** provide guidance on how to complete each inspection activity.

ITEMS INSPECTED				SAMPLE NUMBER (INSERT AS NEEDED)														AVERAGE
CONTAINER IDENTIFICATION																		
GLAZED WEIGHT			lb. or oz.															
DEGLAZED WEIGHT (NET)			lb. or oz.															
DRAINED or CHILLED WEIGHT			lb. or oz.															
SUBSAMPLE GLAZED WEIGHT			lb. or oz.															
SUBSAMPLE DEGLAZED WEIGHT			lb. or oz.															
SUBSAMPLE DRAINED or CHILLED WEIGHT			lb. or oz.															
ADJUSTED WEIGHT			Sample Unit															
ADJUSTED COUNT			Sample Unit															
COUNT per POUND	Declared		Actual															
COUNT per PACKAGE	Declared		Actual															

In the example below for 26/30 I.Q.F. shrimp in a thirty two (32.00) ounce package, the compliance inspection items have been recorded for all six (6) sample units. The Average for Deglazed Weight (Net) is **32.21** ounces and the Average for Count per Pound is **26.4**.

ITEMS INSPECTED				SAMPLE NUMBER (INSERT AS NEEDED)														AVERAGE
				1	2	3	4	5	6									
CONTAINER IDENTIFICATION		1234QWSA		1234QWSA	1234QWSA	1234QWSA	1234QWSA	1234QWSA	1234QWSA									
GLAZED WEIGHT			oz.	37.76	38.40	38.08	37.80	37.93	38.11									
DEGLAZED WEIGHT			oz.	32.08	32.16	32.96	32.02	31.98	32.08									**32.21**
DRAINED or CHILLED WEIGHT			lb. or oz.	-	-	-	-	-	-									**-**
SUBSAMPLE GLAZED WEIGHT			lb. or oz.	-	-	-	-	-	-									
SUBSAMPLE DEGLAZED WEIGHT			lb. or oz.	-	-	-	-	-	-									
SUBSAMPLE DRAINED or CHILLED WEIGHT			lb. or oz.	-	-	-	-	-	-									
WEIGHT OF FORZEN WHOLE SHRIMP			Sample Unit	32.08	32.14	32.96	32.02	31.98	32.08									
COUNT OF FROZEN WHOLE SHIRMP			Sample Unit	52	51	55	56	53	53									
COUNT per POUND	Declared	26/30	Actual	25.9	25.3	26.6	27.9	26.5	26.4									**26.4**
COUNT per PACKAGE	Declared	N/A	Actual	-	-	-	-	-	-									**-**

In the example below for 16/20 chilled shrimp in a five (5.00) pound package, the compliance inspection items have been recorded for all six (6) sample units. The Average for Drained or Chilled Weight (Net) is **80.21** ounces and the Average for Count per Package is **40.3**.

ITEMS INSPECTED				SAMPLE NUMBER (INSERT AS NEEDED)														AVERAGE
				1	2	3	4	5	6									
CONTAINER IDENTIFICATION		1234ASWE		1234ASWE	1234ASWE	1234ASWE	1234ASWE	1234ASWE	1234ASWE									
GLAZED WEIGHT			lb. or oz.	-	-	-	-	-	-									
DEGLAZED WEIGHT (NET)			lb. or oz.	-	-	-	-	-	-									-
DRAINED or CHILLED WEIGHT (NET)			oz.	79.11	80.22	81.10	80.34	81.54	78.97									80.21
SUBSAMPLE GLAZED WEIGHT			lb. or oz.	-	-	-	-	-	-									
SUBSAMPLE DEGLAZED WEIGHT			lb. or oz.	-	-	-	-	-	-									
SUBSAMPLE DRAINED or CHILLED WEIGHT			oz.	32.00	32.15	32.20	32.07	32.02	32.80									
WEIGHT OF FROZEN WHOLE SHRIMP			Sample Unit	-	-	-	-	-	-									
COUNT OF FROZEN WHOLE SHRIMP			Sample Unit	-	-	-	-	-	-									
COUNT per POUND	Declared	N/A	Actual	-	-	-	-	-	-									-
COUNT per PACKAGE	Declared	40 - 45	Actual	41	40	40	39	41	41									40.3

Section 3 - NOAA SIP Quality Inspection Results

Introduction

Workmanship Quality Attributes are assessed nonconformance points on a percent by weight or a percent by count basis while the sample unit is in the chilled or thawed state.

Sensory evaluation is used to determine whether the seafood products are free from decomposition and taint and comply with regulatory requirements. Sensory evaluation is also used to determine whether seafood products meet sensory quality eligibility requirements for the use of NOAA SIP Official Insignia.

Complete the NOAA SIP Supplemental Worksheet for Chilled or Frozen Shrimp.

Step 1 – Complete the Administrative Information for the fish or fishery product lot.

NOAA SIP Supplemental Worksheet for Chilled or Frozen Shrimp			
Administration Information		**Product Description Information**	
Inspection Date		Product Type	
Inspection Type		Product Style	
Approved Establishment Company Name		Product Form	
Name and (Title or NOAA SIP Number)		Lot Number	

Instructions:

1. Record the Inspection Date.
2. Record the Inspection Type.
3. Record the Approved Establishment Company Name for which this inspection is being conducted.
4. Record the Name and (Title or NOAA SIP Number) of the person performing the inspection.

In the example below: the Inspection Date is **June 12, 2024**, the Inspection Program Type selected is **Grade A**, the Company Name is **Fisherman's Best Seafood**, and the name of the person performing the inspection is **Charles Xavius #3421**.

Administration Information	
Inspection Date	June 12, 2024
Inspection Type	Grade A
Approved Establishment Company Name	Fisherman's Best Seafood
Name and (Title or NOAA SIP Number)	Charles Xavius #3421

Step 2 – Complete the Product Description Information – Product Type, Style, Form and Lot Number.

The product description information provides additional important details about the unique fish or fishery products being produced.

1. Record the **Product Type**.
2. Record the **Product Style**.
3. Record the **Product Form**.
4. Record the **Lot Number.**

In the example below, the Product Type is **Individually Quick Frozen (IQF), Glazed**, the Product Style is **Round**, the Product Form is **Peeled and Deveined Tail-on**, and the Lot Number is **123QWAS**.

Product Description Information	
Product Type	Individually Quick Frozen (IQF), Glazed
Product Style	Round
Product Form	Peeled and Deveined Tail-on
Lot Number	1234QWAS

Workmanship Quality Attributes Criteria.

For detailed instruction on defining and identifying each attribute, see the *NOAA SIP Workmanship Quality Attribute Assessment Guidelines*.

Sample Unit Evaluation

Sample units shall be evaluated in the deglazed state to assess *Workmanship Quality Attributes*.

- Each sample unit shall be assessed in its entirety for each individual *Workmanship Quality Attribute* or grouped *Workmanship Quality Attributes*.
    - For example, after assessing the sample unit for “Atypical”, return all “Atypical” shrimp back to the sample unit to complete the remaining *Workmanship Quality Attribute* assessments.
        - A single shrimp may have more than one *Workmanship Quality Attribute*.

Remember to lay the sample unit out on a tray used for each evaluation to ensure the entire sample unit is thoroughly assessed.

Workmanship Quality Attribute Assessment

For detailed instruction on defining, identifying, and assessing each attribute, see the *NOAA SIP Workmanship Quality Attribute Assessment Guidelines*.

When count per pound is not declared on the label, in the case of Salad Shrimp, an eight (8) ounce subsample should be used to determine count per pound. This determination will serve as the actual count per pound used for Appendix B.

Step 3 – **Record the Unit of Mass and the Sample Unit Net Weight for each sample unit**.

In the example below, the Unit of Mass and Sample Unit Net Weight values have been entered for all six (6) sample units.

NOAA SIP Workmanship Quality Assessment Results													
Chilled, Frozen, or Thawed State													
Sample Unit Number		1		2		3		4		5		6	
Sample Unit Net Weight	oz.	32.08		32.14		32.96		32.02		31.98		32.08	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Broken Shrimp, Damaged Shrimp, Shrimp Pieces Unusable Shrimp Material	Ounces												
	%												

Step 4 – **Weigh and Record the Broken Shrimp, Damaged Shrimp, Shrimp Pieces, Unusable Material.**

1. Weigh and record the ***Broken Shrimp, Damaged Shrimp, Shrimp Pieces, Unusable Shrimp Material*** in **ounces**. Record 0.00 when unusable material is not present.

In the example below, for Sample Unit #1, the *Broken Shrimp, Damaged Shrimp, Shrimp Pieces, Unusable Shrimp Material I* is **0.00** ounces; for Sample Unit #2, the *Broken Shrimp, Damaged Shrimp, Shrimp Pieces, Unusable Shrimp Material* is **0.02** ounces.

NOAA SIP Workmanship Quality Assessment Results												
Chilled, Frozen, or Thawed State												
Sample Unit Number		1		2		3		4		5		6	
Sample Unit Net Weight	oz.	32.08		32.14		32.96		32.02		31.98		32.08	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Broken Shrimp, Damaged Shrimp, Shrimp Pieces Unusable Shrimp Material	Ounces	0.00		0.02		0.00		0.00		0.00		0.00	
	%												

2. Calculate the **%** of Broken Shrimp, Damaged Shrimp, Shrimp Pieces, Unusable Shrimp Material and the Pts. (nonconformance points).

In the example below, for Sample Unit #1, the **%** is **0.00** and the Pts. is **0.00**; for Sample Unit #2, the *%* is **0.06** and the Pts. is **0.11**.

NOAA SIP Workmanship Quality Assessment Results												
Chilled, Frozen, or Thawed State												
Sample Unit Number		1		2		3		4		5		6	
Sample Unit Net Weight	oz.	32.08		32.14		32.96		32.02		31.98		32.08	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Broken Shrimp, Damaged Shrimp, Shrimp Pieces Unusable Shrimp Material	Ounces	0.00	0.00	0.02	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	%	0.00		0.06		0.00		0.00		0.00		0.00	

Step 5 – **Count and Record the Number of Whole Shrimp**.

In the example below, for Sample Unit #1, the *Number of Whole Shrimp* is **52**.

Chilled, Deglazed, or Thawed State							
Number of Whole Shrimp	Number	52	51	55	56	53	53

Assessments of the following **Workmanship Quality Attributes** must be performed in the *Chilled* or *Thawed* state:

- Atypical Shrimp
- Dehydrated Shrimp
- Discolored Shrimp
- Improperly Deveined Shrimp
- Improperly Processed Shrimp
- Uniformity of Size

Step 6 – Record Uniformity of Size

Instructions:

1. Determine the quantity of both of the largest and smallest shrimp to be evaluated for this assessment.

   In the example below, the quantity of Whole Shrimp to be evaluated is 6 for each sample unit.

Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)												
	Small (oz.)												
	Ratio												

(10% of the number of whole shrimp, rounded up)

2. Record the weight of **Largest (oz.)**.

In the example below, the weight of Large (oz.) for Sample Unit Number 1 was **5.61;** Sample Unit Number 2 was **5.65**; Sample Unit Number 3 was **5.46**; Sample Unit Number 4 was **5.20;** Sample Unit Number 5 was **5.63**; and, Sample Unit Number 6 was **5.57**.

Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)	5.61		5.65		5.46		5.20		5.63		5.57	
	Small (oz.)												
	Ratio												

3. Record the weight of **Small (oz.)**.

In the example below, the Weight of Small (oz.) for Sample Unit Number 1 was **4.86;** Sample Unit Number 2 was **4.85**; Sample Unit Number 3 was **4.75**; Sample Unit Number 4 was **4.23** Sample Unit Number 5 was **4.91**; and, Sample Unit Number 6 was **4.89**.

Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)	5.61		5.65		5.46		5.20		5.63		5.57	
	Small (oz.)	4.86		4.85		4.75		4.23		4.91		4.89	
	Ratio												

4. Calculate the **Ratio**.

In the example below, the Ratio for Sample Unit Number 1 was **1.15;** Sample Unit Number 2 was **1.16**; Sample Unit Number 3 was **1.15**; Sample Unit Number 4 was **1.12** Sample Unit Number 5 was **1.15**; and, Sample Unit Number 6 was **1.14**.

Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)	5.61		5.65		5.46		5.20		5.63		5.57	
	Small (oz.)	4.86		4.85		4.75		4.23		4.91		4.89	
	Ratio	1.15		1.16		1.15		1.12		1.15		1.14	

5. Calculate the **Pts** (total points).

In the example below, the Pts. for all six (6) sample units is **0.00**.

Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)	5.61		5.65		5.46		5.20		5.63		5.57	
	Small (oz.)	4.86	0.00	4.85	0.00	4.75	0.00	4.23	0.00	4.91	0.00	4.89	0.00
	Ratio	1.15		1.16		1.15		1.12		1.15		1.14	

Step 7 – **Calculate the Workmanship Quality Attribute**

All *Workmanship Quality Attribute* assessments are performed identically as follows:

1. Count the number of nonconforming shrimp for each workmanship attribute.
2. Record the number of nonconforming shrimp on the Supplemental Worksheet.
3. Calculate and record the **% by count** and assessed **points** on the Supplemental Worksheet.

Since all of the *Workmanship Quality Attributes* are assessed identically, we will provide one example using the attribute **Dehydrated Shrimp.**
Please note: each workmanship quality attribute is assigned a specific multiplication factor based on severity.

In the example below for Sample Unit #2, the number of Dehydrated Shrimp was **3**. The % was **5.88** of affected shrimp and the associated nonconformance points was **7.35**.

Workmanship Quality Attributes		Data	Pts.	Data	Pts.	Data	Pts.	Data	Pts.	Data	Pts.	Data	Pts.
Broken Shrimp, Damaged Shrimp, Shrimp Pieces Unusable Shrimp Material	Ounces	0.00	0.00	0.02	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	%	0.00		0.06		0.00		0.00		0.00		0.00	
Number of Whole Shrimp	Number	52		51		55		56		53		53	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)	5.61	0.00	5.65	0.00	5.46	0.00	5.20	0.00	5.63	0.00	5.57	0.00
	Small (oz.)	4.86		4.85		4.75		4.23		4.91		4.89	
	Ratio	1.15		1.16		1.15		1.12		1.15		1.14	
Atypical Shrimp	Number												
	%												
Dehydrated Shrimp	Number			3	7.35	4	9.09						
	%			5.88		7.27							
Discolored Shrimp	Number	1	1.92							2	3.77		
	%	1.92								3.77			
Improperly Deveined Shrimp	Number					3	5.45	3	5.36				
	%					5.45		5.36					
Improperly Processed Shrimp	Number			4	5.88	5	6.82					3	4.25
	%			7.84		9.09						5.66	

Step 8 - Record Remarks.

Document comments and/or observations while assessing Workmanship Quality Attributes.

In the example below, there were no comments or observations noted after completing the workmanship quality assessment.

Improperly Processed Shrimp	Number			4	5.88	5	6.82					3	4.25
	%			7.84		9.09						5.66	
Remarks													
no comments													

Complete NOAA FORM 89-821 SCORESHEET FOR CHILLED OR FROZEN SHRIMP continue.

Step 9 – Record WORKMANSHIP QUALITY ATTRIBUTES.

Instructions:

1. Transfer the **Pts** (points) assigned to each workmanship quality attribute in the sample unit from the NOAA SIP Supplemental Worksheet to the NOAA FORM 89-821.

In the example below, the Workmanship Quality Attributes **Points** were recorded for each sample unit.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
BROKEN SHRIMP, DAMAGED SHRIMP, SHRIMP PIECES UNUSABLE SHRIMP MATERIAL	0.00	0.11	0.00	0.00	0.00	0.00								
UNIFORMITY OF SIZE														
ATYPICAL SHRIMP														
DEHYDRATED SHRIMP		7.35	9.09											
DISCOLORED SHRIMP	1.92				3.77									
IMPROPERLY DEVEINED SHRIMP			5.45	5.35										
IMPROPERLY PROCESSED SHRIMP		5.88	6.82			4.25								
TOTAL POINTS														
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE														

2. Calculate the **TOTAL POINTS** for each sample unit.

In the example below, the Total Points for Sample Number 1 was **1.92**; Sample Number 2 was **13.34**; Sample Number 3 was **21.36**; Sample Number 4 was **5.35**; Sample Number 5 was **3.77**; and, Sample Number 6 was **4.25**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
BROKEN SHRIMP, DAMAGED SHRIMP, SHRIMP PIECES UNUSABLE SHRIMP MATERIAL	0.00	0.11	0.00	0.00	0.00	0.00								
UNIFORMITY OF SIZE														
ATYPICAL SHRIMP														
DEHYDRATED SHRIMP		7.35	9.09											
DISCOLORED SHRIMP	1.92				3.77									
IMPROPERLY DEVEINED SHRIMP			5.45	5.35										
IMPROPERLY PROCESSED SHRIMP		5.88	6.82			4.25								
TOTAL POINTS	1.92	13.34	21.36	5.35	3.77	4.25								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE														

3. Record **WORKMANSHIP QUALITY ASSESSMENT** for each sample unit.

In the example below, the Workmanship Quality Assessment for Sample Number 1 was **High;** Sample Number 2 was **High**; Sample Number 3 was **Medium**; Sample Number 4 was **High;** Sample Number 5 was **High**; and, Sample Number 6 was **High**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
BROKEN SHRIMP, DAMAGED SHRIMP, SHRIMP PIECES UNUSABLE SHRIMP MATERIAL	0.00	0.11	0.00	0.00	0.00	0.00								
UNIFORMITY OF SIZE														
ATYPICAL SHRIMP														
DEHYDRATED SHRIMP		7.35	9.09											
DISCOLORED SHRIMP	1.92				3.77									
IMPROPERLY DEVEINED SHRIMP			5.45	5.35										
IMPROPERLY PROCESSED SHRIMP		5.88	6.82			4.25								
TOTAL POINTS	1.92	13.34	21.36	5.35	3.77	4.25								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	Medium	High	High	High								

4. Record **Workmanship Quality Lot Determination**.

In the example below, the Workmanship Quality Lot Determination was **High**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
BROKEN SHRIMP, DAMAGED SHRIMP, SHRIMP PIECES UNUSABLE SHRIMP MATERIAL	0.00	0.11	0.00	0.00	0.00	0.00								
UNIFORMITY OF SIZE														
ATYPICAL SHRIMP														
DEHYDRATED SHRIMP		7.35	9.09											
DISCOLORED SHRIMP	1.92				3.77									
IMPROPERLY DEVEINED SHRIMP			5.45	5.35										
IMPROPERLY PROCESSED SHRIMP		5.88	6.82			4.25								
TOTAL POINTS	1.92	13.34	21.36	5.35	3.77	4.25								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	Medum	High	High	High								High

Step 10 – **Record SENSORY QUALITY ATTRIBUTES.**

Follow the procedures in the *NOAA SIP Sensory Quality Attributes Assessment Guidelines for Fish and Fishery Products to* evaluate and identify sensory attributes.

Instructions:

1. Assess and Classify Sample Unit Odor/Flavor.
2. Record Sensory Compliance Results for each sample unit.

In the example below, the Odor/Flavor assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE														
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE														

3. Assess and Classify Sample Unit Texture.
4. Record Sensory Compliance Results for each sample unit.

In the example below, the Texture assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE														

5. Record the Sensory Quality Assessment for each sample unit.

In the example below, the Sensory Quality Assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								

6. Record the Sensory Quality Lot Determination.

In the example below, the Sensory Quality Lot Determination was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								High

Step 11 – **Record LOT QUALITY DETERMINATION**.

The lowest determination assigned to either Workmanship Quality Lot Determination or Sensory Quality Lot Determination is the Lot Quality Determination.

In the example below, the Lot Quality Determination was **High**.

WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	Medum	High	High	High								High
SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								High
LOT QUALITY DETERMINATION														High

Section 4 - Finalized Inspection Documentation

Step 1 – **Record Comments and Observations.**

When relevant, use the Comments and Observations section in the score sheet to provide additional contextual detail for inspection results.

Instructions:

1. Record comments and observations including a description of the conditions that may have rendered a lot nonconforming.
2. When a lot is rendered *not meet Eligibility Requirements for US Grade A Shield and/or USDC PUFI Mark* due to the presence of acceptable sensory assessments, use the "Acceptable" descriptors listed on the *NOAA SIP Odor/Flavor* and *NOAA SIP Texture* guides.

In the example below, comments and observations were recorded that rendered the lot nonconforming due to acceptable odor/flavor.

REMARKS

Sample unit #3 possessed "acceptable" odor/flavor characteristics. Cardboardy odor and stale flavor detected.

Step 2 – **Record Conclusion Statement.**

Record the Eligibility for Use of NOAA SIP Official Insignia statement in the remarks section of NOAA FORM 89-821.

1. When a lot meets eligibility requirements or use of US Grade A Shield and USDC PUFI Marks , record the following statement:

"***This lot meets Eligibility Requirements for US Grade A Shield and/or USDC PUFI Mark.***"

2. When a lot meets eligibility requirements for use of the USDC PUFI Mark, record the following statement:

   "***This lot meets Eligibility Requirements for USDC PUFI Mark.***"

3. When a lot does not meet eligibility requirements for use of US Grade A Shield or USDC PUFI Mark, record the following statement:

   "***This lot does not meet Eligibility Requirements for US Grade A Shield or USDC PUFI Mark.***"

   a. When a lot is rendered *not meet Eligibility Requirements for US Grade A Shield or USDC PUFI Mark*, provide a statement explaining why the lot did not meet eligibility requirements.

Step 3 – **Complete Inspection Documentation.**

Instructions:

1. Review the Supplemental Worksheet and NOAA FORM 89-821 to confirm that all data has been accurately recorded.
2. Sign and date each document.

Chilled or Frozen Shrimp Scoresheet and Supplemental Worksheet

Please see below and example of the scoresheet and worksheet use by Seafood Inspection Program when grading Chilled or Frozen Shrimp.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	**SCORESHEET** **For: CHILLED OR FROZEN SHRIMP - Supersedes NOAA FORM 89-860**	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	PAGE OF PAGES DATE

CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER NUMBER	CONTAINER SIZE	CONTAINER KIND	POUNDAGE	SPECIES	ORIG. COUNTRY

PRINCIPAL TITLE OF LABEL	PACKER OR DISTRIBUTOR

ITEMS INSPECTED			SAMPLE NUMBER (INSERT AS NEEDED)													AVERAGE
CONTAINER IDENTIFICATION																
GLAZED WEIGHT		lb. or oz.														
DEGLAZED WEIGHT (NET)		lb. or oz.														
DRAINED or CHILLED WEIGHT (NET)		lb. or oz.														
SUBSAMPLE GLAZED WEIGHT		lb. or oz.														
SUBSAMPLE DEGLAZED WEIGHT		lb. or oz.														
SUBSAMPLE DRAINED or CHILLED WEIGHT		lb. or oz.														
WEIGHT OF WHOLE FROZEN SHRIMP		Sample Unit														
COUNT OF WHOLE FROZEN SHRIMP		Sample Unit														
COUNT per POUND	Declared	Actual														
COUNT per PACKAGE	Declared	Actual														

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE												
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS
BROKEN SHRIMP, DAMAGED SHRIMP, SHRIMP PIECES UNUSABLE SHRIMP MATERIAL													
UNIFORMITY OF SIZE													
ATYPICAL SHRIMP													
DEHYDRATED SHRIMP													
DISCOLORED SHRIMP													
IMPROPERLY DEVEINED SHRIMP													
IMPROPERLY PROCESSED SHRIMP													
TOTAL POINTS													
WORKMANSHIP QUALITY ASSESSMENT **HIGH, MEDIUM, OR ACCEPTABLE**													
SENSORY QUALITY ATTRIBUTES	**COOKED, REHEATED, OR WARMED STATE**												
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE													
TEXTURE HIGH OR ACCEPTABLE													
SENSORY QUALITY ASSESSMENT **HIGH, ACCEPTABLE, OR UNACCEPTABLE**													
LOT QUALITY DETERMINATION													

REMARKS	OFFICIAL INSPECTOR SIGNATURE

NOAA SIP Supplemental Worksheet for Chilled or Frozen Shrimp													
Lot Parameters													
Administration Information							Product Description Information						
Inspection Date							Product Type						
Inspection Type							Product Style						
Approved Establishment Company Name							Product Form						
Name and (Title or NOAA SIP Number)							Lot Number						
NOAA SIP Workmanship Quality Assessment Results													
Chilled, Deglazed, or Thawed State													
Sample Unit Number													
Sample Unit Net Weight													
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Broken Shrimp, Damaged Shrimp, Shrimp Pieces Unusable Shrimp Material	Ounces												
	%												
Number of Whole Shrimp	Number												
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Uniformity of Size (10% of the number of whole shrimp, rounded up)	Large (oz.)												
	Small (oz.)												
	Ratio												
Atypical Shrimp	Number												
	%												
Dehydrated Shrimp	Number												
	%												
Discolored Shrimp	Number												
	%												
Improperly Deveined Shrimp	Number												
	%												
Improperly Processed Shrimp	Number												
	%												
Remarks													

Chilled or Frozen Shrimp Workmanship Quality Assessment Guidelines

Introduction

The ***NOAA Seafood Inspection Program*** (***NOAA SIP***) ***Workmanship Quality Assessment Guidelines*** provide definitions and visual examples of *Workmanship Quality Attributes* that may be present in chilled or frozen shrimp.

Scope

The ***NOAA SIP Workmanship Quality Assessment Guidelines*** apply to shrimp covered by *US Grade Standard for Chilled or Frozen Shrimp* published by NOAA SIP.

1. **Broken shrimp** - shrimp with a break in the flesh more than or equal to ½ of the shrimp's thickness where the break occurs.
    - For shrimp less than or equal to (≤) 70 count per pound the break results in fewer than 5 segments.
    - For shrimp greater than (>) 70 count per pound the break results in fewer than 4 segments.

2. **Damaged shrimp** - shrimp that are crushed, mutilated, or with partial breaks in the flesh less than ½ of the shrimp's thickness. The damage materially affects the appearance and usability of the product.

3. **Pieces** - shrimp that are separated into two or more parts.
    - For shrimp less than or equal to (≤) 70 count per pound the pieces are fewer than 5 consecutive segments.
    - For shrimp greater than (>) 70 count per pound the pieces are fewer than 4 consecutive segments.

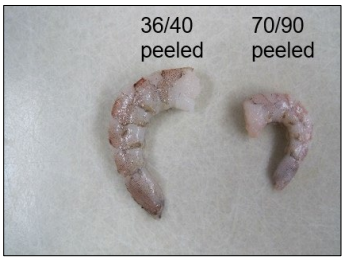
    Note: Any sections or fragments that are greater than or equal to (≥) ⅔ the length of the shrimp (excluding the tail) is referred to as a *Damaged Shrimp*.

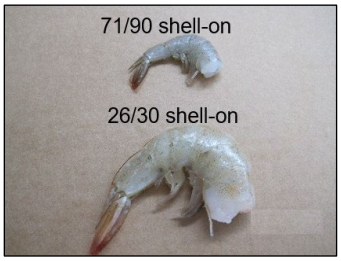
4. **Unusable material** refers to any objectionable material that has been derived from the shrimp and does not pose a threat to human health, and includes, but is not limited to detached walking legs, detached shells, detached antennae, detached heads or detached flippers.


5. **Uniformity of size** refers to the degree of uniformity of whole shrimp and is based on the weight ratio of the largest shrimp to the smallest shrimp in the sample unit

Uniform Shrimp


Non-uniform Shrimp





6. **Atypical Shrimp:** shrimp that exhibit any pronounced deviations from the normal appearance of shrimp including but not limited to

    a. Abnormal conditions: unusual flesh and/or shell conditions, other than those leading to discoloration, such as excessive sliminess or excessive soft shell.

    b. Diseased conditions: unusual flesh and/or shell conditions, not zoonotic in origin, affecting appearance and/or texture, separate and distinct from discoloration workmanship quality attributes.

Cotton, Milky

Shrimp with white

Blush – Black

Tail rot

7. **Dehydrated Shrimp:** noticeable dry, white fibrous appearances on the surface of the flesh that is present in the frozen state and present in the thawed state.

   Note: If the shrimp are shell-on, and dehydration is evident on the shell surface, it is necessary to remove the shell to determine if the dehydration is present on the shrimp's flesh.

8. **Discolored shrimp** - shrimp that have discoloration including, but not limited to, black spots and discolored shrimp flesh or shell.

   a. Black spots: shrimp with three or more dark spots that penetrate the flesh and cause the flesh to be black or darkened.

Black Spots on flesh

Black Spots on shell only (not assessed)

9. **Improperly Deveined Shrimp** - deveined shrimp with the presence of a dark vein (alimentary canal) containing sand, sediment, or roe that should have been removed.

    - For shrimp with an actual count per pound of ≤ 70, this defect is assessed when there are areas of dark vein or roe that when combined are longer than one segment.
    -
    - For shrimp with an actual count per pound of >70, this defect is assessed when there are areas of dark vein or roe that when combined are longer than two segments.


10. **Improperly Processed Shrimp** - shrimp that are, including but not limited to, improperly cleaned end, improperly or inadvertently peeled, and improperly headed shrimp.
    Note: For shrimp with a declared count per pound greater than 250, assess sample units only for improper or inadvertent peeled.

    a. Improperly cleaned end: head-off shrimp that are not cleanly processed resulting in the presence of non-flesh residue.

    b. Improperly or inadvertently peeled: shrimp with the presence or absence of full shell segments, swimmerets, and tail fins, depending upon the product form.



    c. Improperly headed shrimp: the presence or absence of the shrimp head depending upon the product style.


This concludes the Quality Assessment. Proceed to The NOAA Fisheries SIP *Sensory Quality Assessment Guidelines for Fish and Fishery Products* to determine sample unit sensory quality assessment.

Back to top

Fish Fillet Blocks

Scope and product description

(a) These U.S. Standards for Grades apply to frozen fish blocks which are rectangular shaped masses made from a single species of fish flesh. They are made from fillets or fillet pieces that are either skin-on and scaled or skinless. Blocks processed from skin-on fish flesh shall be so labeled. The blocks shall not contain minced or comminuted fish flesh. The blocks shall not be made by restructuring (reworking) pieces of fish blocks into the shape of a fish block.

(b) These Standards for Grades are implemented in accordance with guidance set forth in part II of NOAA Handbook 25, "Inspector's Instructions for Grading Frozen Fish Blocks."

Grades.

(a) U.S. Grade A fish blocks shall:
- (1) Possess good flavor and odor in accordance with Grade Determination; and
- (2) Comply with the limits for physical defects for U.S. Grade A quality in accordance with Grade Determination.

(b) U.S. Grade B fish blocks shall
- (1) Possess reasonably good flavor and odor in accordance with Grade Determination; and
- (2) Comply with the limits for physical defects for U.S. Grade B quality in accordance with § Grade Determination.

(c) U.S. Grade C fish blocks shall:
- (1) Possess reasonably good flavor and odor in accordance with Grade Determination; and
- (2) Comply with the limits for physical defects for U.S. Grade C quality in accordance with Grade Determination.

(d) Substandard fish blocks shall fail to meet one or more of the requirements given in paragraphs (a), (b), and (c) of this section for U.S. Grades A, B, and C.

Grade determination

(a) *Procedures for grade determination*. The grade shall be determined by evaluating a product in the frozen, thawed and cooked states according to paragraphs of this section-namely, sampling; flavor and odor; physical defects; listing defect points; and grade assignment.

(b) *Sampling*. Sampling shall be done in accordance with the sampling plan given in Sampling Plan for Fish Blocks.

(1) For examination in the frozen state and the thawed state, a sample unit is one fish block.
(2) For examination in the cooked state. a sample unit is at least three 4- to 6-ounce (113.4 to 170.1 g) samples which are taken from a thawed sample unit.

(c) *Evaluation of flavor and odor*.

(1) *Good* flavor and odor (essential quality requirements for a U.S. Grade A product) mean that the raw product has the odor and the cooked product has the flavor and odor characteristics of the indicated species of fish and are free from off-flavors and off-odors of any kind.
(2) *Reasonably good* flavor and odor (minimum requirements of a U.S. Grade B and a U.S. Grade C product) mean that the raw product or the cooked product is lacking in good odor (for the raw product) or good flavor and odor (for the cooked product) which is characteristic of the indicated species. Both the raw and the cooked products are free from objectionable off-flavors and off-odors of any kind.

(d) *Examination for physical defects*. Each sample unit shall be examined for physical defects using the list of definitions of defects given in paragraph (e) of this section.

(e) *Definitions of physical defects*-

(1) *Dehydration*. This defect refers to loss of moisture from the surface of a fish block during frozen storage. Affected areas have a whitish appearance.

(i) *Moderate dehydration* masks the surface color of the product and affects more than 5 percent up to and including 15 percent of the surface area. If more than 15 percent of the surface area is affected, each additional 15 percent of surface area affected is another instance. Moderate dehydration can be readily removed by scraping with a blunt instrument.
(ii) *Excessive dehydration* masks the normal flesh color and penetrates the product. It affects more than 5 percent up to and including 10 percent of the surface area. If more than 10 percent of the surface area is affected, each additional 10 percent of surface area affected is another instance. Excessive dehydration requires a knife or other sharp instrument to remove.

(2) *Uniformity of block size*. This defect refers to the degree of conformity to the declared size. It includes deviations from the standard length, width or thickness. Only one deviation for each dimension shall be counted.

(i) *Moderate*. A deviation of length and width of inch (0.32 cm) or more up to and including ¼ inch (0.64 cm). A deviation of thickness of 1/16 inch (0.16 cm) or more up to and including inch (0.32 cm).
(ii) *Excessive*. If over ¼ inch (0.64 cm), each additional inch (0.32 cm) of length and width is another instance. If over (0.32 cm), each additional 1/16 inch (0.16 cm) of thickness is another instance.

(3) *Underweight* refers to underweight deviations from the stated weight.

(i) *Slight*. From 0.1 ounce (2.84 g) up to and including 1.0 ounce (28.35 g).
(ii) *Moderate*. Over 1.0 ounce (28.35 g) up to and including 4.0 ounces (113.4 g). (iii) *Excessive*. If over 4.0 ounces (113.4 g), each additional 1.0 ounce (28.35 g) is another instance.

(4) *Angles*. An acceptable edge angle is an angle formed by two adjoining surfaces whose apex (deviation from 90 degrees) is within ⅜ inch (0.95 cm) off a carpenter's square placed along its surfaces. An acceptable corner angle is an angle formed by three adjoining surfaces whose apex is within ⅜ inch (0.95 cm) of a carpenter's square.
(5) *Improper fill*. This defect refers to voids, air packets, ice pockets, ragged edges, bumps, depressions, damage, and embedded packaging material, each of which is greater than inch (0.32 cm) in depth, and which would result in product lose after cutting. It is estimated by determining the minimum number of 1-ounce (28.35 g) model units that could be affected adversely. For the purpose of estimating product loss, the 1-ounce (28.35 g) model unit shall have the dimensions 4x1x⅝ inch (10.16 x 2.54 x 1.59 cm). The total number of model units that would be affected adversely is the number of instances.

(6) *Belly flaps (Napes)* may be either loose or attached to a fillet or part of a fillet. The maximum amount of belly flaps should not exceed 15 percent by declared weight of the block if this amount does exceed 15%, each additional 5 percent by declared weight is another instance.

(7) *Blood spots*. Each lump or mass of clotted blood greater than 3/16 inch (0.48 cm) up to and including ⅜ inch (0.95 cm) in any dimension is an instance. If a blood spot is larger than ⅜ inch (0.95 cm), each additional 3/16 (0.48 cm) is another instance.

(8) *Bruises* include distinct, unnatural, dark, reddish, grayish, or brownish off-colors due to diffused blood. Each instance is each bruise larger than 0.5 square inch (3.32 cm^2) and less than 1.5 square inch (9.68 cm^2). For each bruise 1.5 square inch (9.68 cm2) or larger, each additional complete 1.0 square inch (6.45 cm^2) is another instance.

(9) *Discoloration* refers to deviations from reasonably uniform color characteristics of the species used, such as melanin deposits, yellowing, rusting or other kinds of discoloration of the fish flesh.

(i) *Moderate*. A noticeable but moderate degree which Is greater than 0.5 square inch (3.23 cm^2) up to and including 1.5 square inch (9.68 cm^2) is one instance. If the discoloration is greater than 1.5 square inch (9.68 cm^2), each additional complete 1.0 square inch (6.45 cm^2) is another instance.

(ii) *Excessive*. An excessive degree of discoloration which is greater than 0.5 square inch (3.23 cm^2) up to and including 1.5 square inch (9.68 cm^2) is one instance. If the discoloration is greater than 1.5 square inch (9.68 cm^2) each additional complete 1.0 square inch (6.45 cm^2) is another instance.

(10) *Viscera, roe and lace*. Viscera and roe refer to any portion of the internal organs. Each occurrence of viscera and roe is an instance. Lace (frill) is a piece of tissue adhering to the edge of a flatfish (Order *Pleuronectifonnes)* fillet. For each lace, each ½ inch (1.27 cm) is each instance.

(11) *Skin*. In skinless fish blocks, each piece of skin larger than 0.5 square inch (3.23 cm^2) up to and including 1.0 square inch (6.45 cm^2) is an instance. For each piece of skin that is larger than 1.0 square inch (6.45 cm2), each additional complete 0.5 square inch (3.23 cm2) in area is another instance. For pieces of skin smaller than 0.5 square inch (3.23 cm2), the number of 0.5-square-inch (3.23 cm2) squares fully or partially occupied after collecting these pieces on a grid is the number of instances.

(12) *Membrane (black belly lining)*. Each piece of membrane (black belly lining) larger than 0.5 square inch (3.23 cm^2) up to and including 1.5 square inch (9.68 cm^2) is an instance. For pieces of membrane (black belly lining) that are larger than 1.5 square inch (9.68 cm^2), each additional complete 0.5 square inch (3.23 cm^2) in area is another instance.

(13) *Scales*.

(i) For skin-on fillets that have been scaled, an instance is an area of scales over 0.5 square inch (3.23 cm^2) up to and including 1.5 square inch (9.68 cm^2). If the area is greater than 1.5 square inch (9.68 cm^2), each additional complete 1.0 square inch (8.45 cm^2) is another instance. Loose scales are counted and instances are deducted in the same manner as for skinless fillets.

(ii) *For skinless fillets*, the first five to ten loose scales is an instance. If there are more than ten loose scales, each additional complete count of five loose scales is another instance.

(14) *Foreign material*. Any harmless material not derived from fish, such as packaging material. Each occurrence is an instance.

(15) *Bones* (including pin bone and fin bone).

(i) Each bone defect to a bone or part of a bone whose maximum profile is 3/16 inch (0.48 cm) or more in length, or at least 1/32 inch (0.08 cm) in shaft diameter or width, or, for bone chips, a longest dimension of at least 3/16 inch (0.48 cm).

(ii) An excessive degree of bone defect is each bone whose maximum profile cannot be fitted into a rectangle, drawn on a flat, solid surface, that has a length of 1 3/16 inch (3.02 cm) and a width of ? inch (0.95 cm).

(16) *Fins or part fins*. This defect refers to two or more bones connected by membrane, including internal or external bones, or both, in a cluster.

(i) *Moderate*. Connected by membrane in a cluster, no internal bone.

(ii) *Excessive*. Connected by membrane in a cluster with internal bone.

(17) *Parasites*-

(i) *Metazoan parasites*. Each such parasite or fragment of such a parasite that is detected is an instance.

(iii) *Parasitic copepods*. Each such parasite or a fragment of such a parasite that is detected is an instance.

(18) *Texture* means that the cooked product has the textural characteristics of the indicated species of fish. It does not include any abnormal textural characteristics such as mushy, soft, gelatinous, tough, dry or rubbery.

(i) *Moderate*. Moderately abnormal textural characteristics.

(ii) *Excessive*. Excessively abnormal textural characteristics.

(f) *Listing defect points*. When a sample unit is examined for physical defects using the list of defect definitions given in paragraph (e) of this section, defects are noted and numerical values are assigned in accordance with Table 1. The numbers assigned to defects in Table I are points. For examination in the frozen state and for belly flaps and texture, the defect points are added together. For examination of defects number 7 through 17 in the thawed state, the defect points are added together and this sum is divided by the declared weight of the sample unit in pounds. Express the result to the nearest whole number. Then add the sum of defects points for the frozen state and for belly flaps and texture to the sum of defect points for the thawed state expressed on a per pound basis. This result is used to determine the sample unit grade. The scoring system is based on a perfect score of zero (no physical defects).

(g) *Grade assignment*. Each sample unit will be assigned its grade in accordance with the limits for defects summarized as follows:

GRADE ASSIGNMENT	FLAVOR AND ODOR	MAXIMUM NUMBER OF DEFECT POINTS
U.S. Grade A	Good	15
U.S. Grade B	Reasonably good	30
U.S. Grade C	Reasonably good	40

If a sample unit has been assigned a grade for flavor and odor that is different from the grade indicated by the number of defect points, the sample unit grade will be the lower grade

Back to top

.

Table I--Defect Table for a Fish Fillet Block Sample [Size of a sample unit is given in Grade Determination (b)]

DEFECT DESCRIPTION	DEGREE	POINT VALUE
1. Dehydration		
Moderate (easily scraped)		
Affecting 5 to 15% of surface area	Each instance	3
Each additional 15% of surface are affected	Each additional instance	7
Excessive (difficult to scrape)		
Affecting 5 to 10% of surface area	Each instance	7
Each addition 10% of surface area affected	Each additional instance	16
2. Uniformity of block size		
Deviation from each dimension		
Moderate		
Length, width; 1/8 inch to 1/4 inch (0.32 to 0.64 cm)	Each instance	3
Thickness; 1/16 inch to 1/8 inch (0.16 to 0.32 cm)	Each instance	3
	Each additional instance	6
Excessive	Each additional instance	6
Length, width; each additional 1/8 inch (0.32 cm)		
Thickness; each additional 1/16 inch (0.16 cm)		
3. Underweight		
Slight		
0.1 ounce to 1.0 ounce (2.84 to 28.35 g)	Each instance	3
Over 1.0 to 4.0 ounce (28.35 to 113.40 g)	Each instance	11
Excessive		
over 4.0 ounce (113.40 g), each additional 1.0 ounce (28.35 g)	Each additional instance	16
4. Angles		
Edge angle - apex should be within 3/8 inch (0.95 cm)	Each unacceptable edge	1
Corner angle - apex should be within 3/8 inch (0.95 cm)	Each unacceptable corner	1
5. Improper fill		
If over 1/8 inch (0.32 cm) deep, minimum number of 1-ounce (28.35 g) units affected	Each instance	1
THAWED STATE		
6. Belly flaps (Napes)		
If over 15%, each additional 5%	Each instance	16
7. Blood spots		
Each spot greater than 3/16 inch to 3/8 inch (o.48 to 0.95 cm)	Each instance	2
If spot over 3/8 inch (0.95 cm), each additional 3/16 inch (0.48 cm)	Each additional instance	4

8. Bruises Each bruise 0.5 square inch (3.23 cm) to 1.5 square inch (9.68 cm^2) If bruise 1.5 square inch (9.66 cm^2) or larger, each additional 1.0 square inch (6.45 cm^2)	Each instance Each additional instance	2 2
9. Discoloration Moderate degree, over 0.5 square inch (3.23cm^2) to 1.5. square (9.68 cm^2) Moderate degree, over 1.5 square inch (9.68 cm^2), each additional 1.0 square inch (6.4 cm^2) Excessive degree, over 0.5 square inch (3.23cm^2) to 1.5. square (9.68 cm^2) Excessive degree, over 1.5 square inch (9.68 cm^2), each additional 1.0 square inch (6.4 cm^2)	Each instance Each additional instance Each instance Each additional instance	4 4 16 16
10. Viscera, roe and lace Viscera, roe; each occurrence Lace (frills), each 1/2 inch (1.27 cm)	Each instance Each instance	8 8
11. Skin (applies to skinless fish blocks) Each piece over 0.5 square inch (3.23cm^2) to 1.0 square (6.45 cm^2) If pieces over 1.0 square inch (6.45 cm^2), each additional 0.5 square inch (3.23 cm^2) If pieces under 0.5 square inch (3.23 cm^2) number of 0.5 square inch (3.23 cm^2) squares occupied	Each instance Each additional instance Each instance	2 10 6
12. Membrane (black belly lining) Each piece over 0.5 square inch (3.23 cm^2) to 1.5 square inch (9.68 cm^2) Over 1.5 square inch (9.68 cm^2) each additional 0.5 square inch (3.23 cm^2)	Each instance Each additional instance	4 10
13A. Scales For skin-on fillets that have been scaled, an area over 0.5 square inch (3.23 cm^2)to 1.5 square inch (9.68 cm^2) If area over 1.5 square inch (9.68 cm^2) each additional 1.0 square inch (6.45 cm^2)	Each instance Each additional instance	2 2
13B. Scales For skinless fillets, the first 5 to 10 loose scales If over 10 loose scales, each additional 5 loose scales	Each instance Each additional instance	2 2
14. Foreign Material Harmless material	Each instance	16
15. Bones Each bone defect as defined Each excessive degree of bone defect as defined	Each instance Each instance	18 48
16. Fins or part fins Moderate (no internal bone) Excessive (with internal bone)	Each instance Each instance	18 48
17. Parasites	Each instance	36

Each metazoan parasite or fragment of it as defined Each parasitic copepod or fragment of it as defined	Each instance	36
	Cooked State	
18. Texture Moderate degree Excessive degree as defined	 Moderate Excessive	 6 31

Back to top

Tolerances for lot certification

(a) The grade assigned to a lot is the grade indicated by the average of the total scores, provided that the number of sample units in the next lower grade for both physical defects and flavor and odor does exceed the acceptance number as indicated in the sampling plans contained in Sampling Plan for Fish Blocks and the provisions of 50 CFR 260.21. In 50 CFR 260.21, the four score points are additive, not subtractive.

(b) The grade assigned to a lot is one grade below the majority of all the sample unit grades if either:

1) The number of sample units in the next lower grade does exceed the acceptance number as given in the sampling plans contained in Sampling Plan for Fish Blocks; (2) The grade of any one of the sample units is more than one grade below the majority of all the sample unit grades.

Hygiene

All lots to be assigned a grade shall be processed and maintained in accordance with §§ 260.98 through 260.104 of this subchapter and of the good manufacturing practice regulations contained in 21 CFR part 110.

Methods of Analysis

Product samples will be analyzed in accordance with the “Official Methods of Analysis” of the Association of Official Analytical Chemists (AOAC), Fourteenth Edition (1984), sec 18.004 (page 331) plus sec 32.059 and 32.060 (page 613) of the Thirteenth Edition (1980), Sec 18.003 (page 285) plus §§ 32.050 and 32.051 (page 543) which are incorporated by reference. Copies of the AOAC methods may be obtained from AOAC, 2200 Wilson Blvd., Suite 400, Arlington, VA 22201. These methods are incorporated as they exist on the date of approval. A notice of any change in the sections of the AOAC methods cited herein will be published in the Federal Register.

Sampling Plan for fish blocks

Lot size (No. of blocks)	Sampling size (No. of blocks to be tested)(n)	Acceptance No.[1](c)

15 or less	2	0
16-50	3	0
51-150	5	1
151-500	8	1
501-3200	13	2
3201-35000	20	3
Over 35000	32	5

[1]For interpretation of this column in grading, see Tolerances for Lot Certification
[FR Doc. 90-24258 Filed 10-15-90; 8:45 am]

Billing Code 3510-22-M

Frozen Fried Fish Portions

Description of the product

Frozen fried fish portions are clean, wholesome, uniformly shaped, unglazed masses of cohering pieces (not ground) of fish flesh coated with breading and partially cooked. The portions are cut from frozen fish blocks; coated with a suitable, wholesome batter and breading; are fried, packaged, and frozen in accordance with good manufacturing practices. They are maintained at temperatures necessary for preservation of the product. Frozen fried fish portions weigh more than 11/2 ounces and are at least three-eighths of an inch thick. All portions in an individual package are prepared from the flesh of one species of fish.

Composition of the product

(a) Frozen fried fish portions shall contain 65 percent by weight of fish flesh determined by the official end-product method as set forth in Definitions(f). Fish flesh content may be determined by the on-line method as set forth in Definitions(g): *Provided*, that the results are consistent with the fish flesh content requirement of 65 percent by weight, when verified by the official end-product method.

(b) Production methods employed in official establishments shall be kept relatively constant for each production lot so as to minimize variation in any factors which may affect the relative fish flesh content.

Grades

(a) “U.S. Grade A” is the quality of frozen fried fish portions that:
(1) Possess good flavor and odor and;
(2) rate a total score of not less than 85 points for those factors of quality that are rated in accordance with the scoring system outlined elsewhere in this part.

(b) “U.S. Grade B” is the quality of frozen fried fish portions that:
(1) Possess at least reasonably good flavor and odor and;
(2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) “Substandard” is the quality of frozen fried fish portions that meet the requirements of Description of Product, but otherwise fail to meet the requirements of “U.S. Grade B.”

Back to top

Determination of the grade

The grade is determined by examining the product in the frozen and cooked states and is evaluated by considering the following factors:

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100; the minimum score is 0.
(b) *Factors not rated by score points.* The factor of "flavor and odor" is evaluated organoleptically by smelling and tasting, after the product has been cooked in accordance with Definitions.

(1) Good flavor and odor (essential requirements for a Grade A product) means that the cooked product has the typical flavor and odor of the indicated species of fish and of the breading and is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.

(2) Reasonably good flavor and odor (minimum requirements of a Grade B product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

Definitions

(a) Selection of the sample unit: The sample unit shall consist of 10 frozen fried fish portions taken at random from one or more packages as required. The portions are spread out on a flat pan or sheet and are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) Examination of sample, frozen state:

(1) “Condition of package” refers to the presence in the package of free excess oil and/or loose breading and/or loose frost.

(2) “Ease” of separation refers to the difficulty of separating portions from each other or from packaging material that are frozen together after the frying operation and during the freezing.

(3) “Broken portion” means a portion with a break or cut equal to or greater than one-half the width or length of the portion.
(4) “Damaged portion” means a portion that has been mashed, physically or mechanically injured, misshaped or mutilated to the extent that its appearance is materially affected. The amount of damage is measured by using a grid composed of squares ¼ inch (that is, squares with an area of 1/16 square inch each) to measure the area of the portion affected. Deductions are not made for damage less than 1/16 square inch.

(5) “Uniformity of size” refers to the degree of uniformity in length and width of the frozen portions. Deviations are measured from the combined lengths of the two longest minus the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest. Deductions are not made for overall deviations in length or width up to ¼ inch.

(6) “Uniformity of weight” refers to the, degree of uniformity of the weights of the portions. Uniformity is measured by the combined weight of the two heaviest portions divided by the combined weight of the two lightest portions. No deductions are made for weight ratios less than 1.20.

(c) Cooked state means the state of the product after cooking in accordance with the instructions accompanying the product. However, if specific instructions are lacking, the product for inspection is cooked as follows: Transfer the product, while still in frozen state, onto a flat pan or sheet of sufficient size to accommodate 10 portions spaced at least ¼ inch apart. Place the pan and frozen contents in a properly ventilated oven preheated to 420° F. until thoroughly cooked (about 15 to 18 minutes or to an internal temperature of 160° F.).

(d) Examination of sample, cooked state:

(1) “Distortion” refers to the degree of bending of the long axis of the portions. Distortion is measured as the greatest deviation from the long axis. Deductions are not made for deviations of less than ¼ inch.

(2) “Color” refers to the reasonably uniform color within the sample unit.

(3) “Coating defects” refers to breaks, lumps, ridges, depressions, blisters or swells and curds in the coating of the cooked product. Breaks in the coating are objectionable bare spots through which the fish flesh is plainly visible. Lumps are objectionable outcroppings of breading on the portion surface. Ridges are projections of excess breading at the edges of the fish flesh. Depressions are objectionable visible voids or shallow areas which are lightly covered by breading. Blisters are measured by the swelling or exposed area in the coating resulting from the bursting or breaking of the coating. Curd refers to crater-like holes in the breading filed with coagulated albumin. Instances of those defects are measured by a plastic grid marked off in ¼ inch squares (1/16 square inch). Each square is counted as 1 whether it is full or fractional.

(4) “Blemishes” refers to skin, blood spots or bruises, objectionable dark fatty flesh, carbon specks or extraneous material. Instances of blemishes refer to each occurrence measured by placing a plastic grid marked off ¼ inch squares (1/16 square inch) over the defect area. Each square is counted as 1 whether it is full or fractional.

(5) “Bones” means the presence of potentially harmful bones in a portion. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.

(6) “Texture defects of the coating” refers to the absence of the normal textural properties of the cooked coating which are crispness and tenderness. Coating texture defects are dryness, sogginess, mushiness, doughyness, toughness, pastiness, as sensed by starchiness or other sticky properties felt by mouth tissues; oiliness to the degree of impairment of texture; and/or mealiness.

(7) “Texture defects of the fish flesh” refers to the absence of the normal textural properties of the cooked fish flesh, which are tenderness, firmness, and moistness without excess water. Texture defects of the flesh are dryness, mushiness, toughness, and rubberyness.

(e) General definitions:

(1) “Small” (overall assessment) refers to a condition that is noticeable but is not seriously objectionable.

(2) “Large” (overall assessment) refers to a condition that not only is noticeable but also is seriously objectionable.

(3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.

(4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.

(f) “Minimum fish flesh content--End-product determination” refers to the minimum percent, by weight, of the average fish flesh content of three frozen fried fish portions (sample unit for fish flesh determination), as determined by the following method:

(1) Equipment needed.

(i) Water bath (for example, a 3- to 4-liter beaker).
(ii) Balance accurate to 0.1 gram.
(iii) Clip tongs of wire, plastic, or glass.
(iv) Stop watch or regular watch readable to a second.
(v) Paper towels.

(vi) Spatula, 4-inch blade with rounded tip.
(vii) Nut pick.
(viii) Thermometer (immersion type) accurate to ± 2°F.

(2) Procedure.

(i) Calculate the weight of the frozen fried fish portions by dividing the declared net weight on the label by the number of fish portions indicated on the label to obtain the weight of an individual fish portion and multiply by three. If the number of fish portions contained in the package is not declared on the label, the actual weight of three frozen fried fish portions shall be used.
(ii) Using tongs, place each portion individually in the water bath maintained at 63° F. to 120° F. and allow to remain until the breading becomes soft and can easily be removed from the still frozen fish flesh (between 10 and 110 seconds for portions held in storage at O° F.).
(iii) At the end of the immersion, remove the fish portion from the water and blot the portion lightly with double thickness paper towelings. This step should be completed in no more than 7 seconds.
(iv) Scrape and remove the breading material and batter from the fish flesh with the spatula removing the softened breading material and batter from the narrow sides and ends of the portion on the initial movements, followed by removing the material from the wider flat surfaces.
(v) Residual batter and breading may remain on some portions prepared using batters that are difficult to remove after one dipping. When this occurs redip the partially "debreaded" portion in 63° to 86° F. (room temperature) water for approximately 2 seconds. Follow step 3 toweling, and remove the softened residual batter and breading material
(vi) Weigh all the "debreaded" fish portions.
(vii) Calculate the percent fish flesh in the sample unit by the following

formula: % fish flesh=Weight of fish flesh (vi)x100/ Weight of three fried fish portions (i)

Back to top

(g) "Minimum fish flesh content--On-line determination" refers to the minimum percent fish flesh, by weight, of the average weight of three groups of five fish portions (sample unit for fish flesh determination), as determined by the following:

(1) Equipment needed-balance accurate to 0.1 gram.
(2) Procedure:

(i) Weigh three groups of five raw unbreaded fish portions from the line. These weights should be recorded and averaged (average weight of three groups of five portions) and percent fish flesh calculated immediately after the average weights are determined.

(ii) Calculate the percent fish flesh in the sample unit by using the average weight of three groups of five unbreaded fish portions and the declared net weight of five fried fish portions. The declared net weight of five fried fish portions is obtained by dividing the net weight declaration on the label by the number of fish portions declared on the label and multiplying by 5. If the number of fish portions is not declared on the label the actual weight of 5 fried fish portions shall be used.

% fish flesh=Weight of fish flesh (vi)x100/ Weight of five fried fish portions (i)

NOTE: The percent fish flesh determined by the on-line method will usually differ from the percent fish flesh determined by the end-product method due to processing and variations associated therewith.

(iii) Frequency of on-line fish flesh content determination. A minimum of three determinations of fish flesh content shall be carried out for small production runs or lots, i.e., 3 x (three groups of five unbreaded fish portions). For larger production runs or lots, a minimum of one determination, i.e., 1 x (three groups of five unbreaded fish portions) shall be carried out for every hour of production of product units of the same weight.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Use of alternate methods for determining fish flesh content

(a) The official end-product method in Definitions(f) for determining fish flesh content shall be used for lot and appeal inspections, and for inspections for verification in official establishments when the on-line method is used.

(b) The on-line method in Definitions(g) for determining fish flesh content may be used in official establishments during processing operations.

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260, Subpart A of this chapter (Regulations Governing Processed Fishery Products).

TABLE 1 -SCHEDULE OF POINT DEDUCTIONS PER SAMPLE UNIT OF 10 PORTIONS

Factors Scored	Method of determining score	Deduct
Frozen State		
1. Condition of package	Small degree: Loose free oil, and/or moderate loose breading and/or moderate frost	3
	Large degree: Oil soaking through package and/or excessive loose breading and/or excessive amount frost	6
2. Ease of separation	Minor: Hand separated with difficulty. Each affected	1
	Major: Separated only by knife or other instrument. Each affected	2
3. Broken portion	Break or cut greater than ½ length width. Each affected	10
4. Damaged portion	Mashed, mechanically and/or physically injured, misshaped or mutilated	
	Minor: 1 to 3 instances. Each affected	2
	Major: Over 3 instances. Each affected	4
Uniformity		
5. Size	Deviation in length or width between the 2 largest and 2 smallest portions is:	
	Up to ¼ inch	0
	Over ¼ inch and up to ½ inch	3
	Over ½ inch	10
6. Weight	Weight ration of 2 heaviest divided by the 2 lightest sticks:	
	Over 1.0 but not over 1.20	0
	Over 1.20 but not over 1.3	3
	Over 1.3 but not over 1.4	6
	Over 1.4	10
Cooked State		
7. Distortion	Major: Bending, shrinking, twisting (1/4 to 1/2 inch). Each affected	1
	Minor: Escessive bending, shrinking, twisting (over 1/2 inch). Each affected	2
8. Color	Minor: Portions differing slightly from average color of portions in sample unit. Each affected	2
	Major: Portions excessively darker or lighter from average color of portions in sample unit. Each affected	4
9. Coating defects	Bare spots, blistering, ridges, breaks, curds[1]	
	Minor: 1 to 3 instances. Each affected	1
	Major: Over 3 instances. Each affected	3
10. Blemishes	Skin, blood spots, bruises and discolorations[1]	
	Minor: 1 to 6 instances. Each affected	1
	Major: Over 6 instances. Each affected	3
11. Bones	Portions containing bones (potentially harmful). Each affected	10
Texture		
12. Coating	Small degree: Moderately dry, soggy, doughy, oily and/or tough	5
	Large degree: Farinaceous (mealy), pasty, very tough and/or oily	10
13. Fish Flesh	Small degree: Moderately dry, soft, mushy	5
	Large degree: Dry to point of fibrousness, very mushy tough, and/or rubbery	15

[1]An instance = each 1/16 square inch (1/4-inch square).

Back to top

Frozen Fried Fish Sticks

Description of the product

Frozen fried fish sticks are clean wholesome, rectangular-shaped unglazed masses of cohering pieces (not ground) of fish flesh coated with breading and partially cooked. The sticks are cut from frozen fish blocks; are coated with a suitable, wholesome batter and breading; are fried, packaged, and frozen in accordance with good manufacturing practices. They are maintained at temperatures necessary for preservation of the product. Frozen fried fish sticks weigh up to and including 1½ ounces; are at least three-eighths of an inch thick; and their largest dimension is at least three times the next largest dimension. All sticks in an individual package are prepared from the flesh of one species of fish.

Composition of the product

(a) Frozen fried fish sticks shall contain 60 percent by weight of fish flesh determined by the official end-product method as set forth in Definitions(f). Fish flesh content may be determined by the on-line method as set forth in Definitions(g): *Provided*, That the results are consistent with the fish flesh content requirement of 60 percent by weight, when verified by the official end-product method.

(b) Production methods employed in official establishments shall be kept relatively constant for each production lot so as to minimize variation in any factors which may affect the relative fish flesh content.

Grades

(a) “U.S. Grade A” is the quality of frozen fried fish sticks that:

(1) Possess good flavor and odor and;
(2) rate a total score of not less than 85 points for those factors of quality that are rated in accordance with the scoring system outlined elsewhere in this part.

(b) “U.S. Grade B” is the quality of frozen fried fish sticks that:
(1) Possess at least reasonably good flavor and odor and;
(2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) “Substandard” is the quality of frozen fried fish sticks that meet the requirements of Description of product, but otherwise fail to meet the requirements of “U.S. Grade B.”

Determination of the grade

The grade is determined by examining the product in the frozen and cooked states and is evaluated by considering the following factors:

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100; the minimum score is 0.

(b) *Factors not rated by score points.* The factor of "flavor and odor" is evaluated organoleptically by smelling, and tasting, after the product has been cooked in accordance with Definitions.

(1) Good flavor and odor (essential requirements for a Grade A Product) means that the cooked product has the typical flavor and odor of the indicated species of fish and of the breading and is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.

(2) Reasonably good flavor and odor (minimum requirements of a Grade B Product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

Definitions

(a) Selection of the sample unit: The sample unit shall consist of 10 frozen fried fish sticks taken at random from one or more packages as required. The fish sticks are spread out on a flat pan or sheet and are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) Examination of sample, frozen state:

(1) "Condition of package" refers to the presence in the package of free excess oil and/or loose breading and/or loose frost.

(2) "Ease of separation" refers to the difficulty of separating sticks from each other or from packaging material that are frozen together after the frying operation and during the freezing.

(3) "Broken stick" means a stick with a break or cut equal to or greater than one-half the width of the stick.

(4) "Damaged stick" means a stick that has been mashed, physically or mechanically injured, misshaped or mutilated to the extent that its appearance is materially affected. The amount of damage is measured by using a grid composed of squares ¼ inch (that is, squares with an area of 1/16 square inch each) to measure the area of the stick affected. Deductions are not made for damage less than 1/16 square inch.

(5) “Uniformity of size” refers to the degree of uniformity in length and width of the frozen sticks. Deviations are measured from the combined lengths of the two longest minus the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest. Deductions are not made for overall deviations in length of width up to ¼ inch.

(6) “Uniformity of weight” refers to the degree of uniformity of the weights of the sticks. Uniformity is measured by the combined weight of the two heaviest sticks divided by the combined weight of the two lightest sticks. No deductions are made for weight ratios less than 1.15.

(c) Cooked state means the state of the product after cooking in accordance with the instructions accompanying the product. However, if specific instructions are lacking, the product for inspection is cooked as follows: Transfer the product, while still in frozen state, onto a flat pan or sheet of sufficient size to accommodate 10 sticks spaced at least ¼ inch apart. Place the pan and frozen contents in a properly ventilated oven preheated to 400°F until thoroughly cooked (about 15 to 18 minutes or to an internal temperature of 160° F.).

(d) Examination of sample, cooked state:

(1) “Distortion” refers to the degree of bending of the long axis of the stick. Distortion is measured as the greatest deviation from the long axis. Deductions are not made for deviations of less than 1/4 inch.

(2) “Color” refers to the reasonably uniform color typical of the sample material.

(3) “Coating defects” refers to breaks, lumps, ridges, depressions, blisters or swells and curds in the coating of the cooked product. Breaks in the coating are objectionable bare spots through which the fish flesh is plainly visible. Lumps are objectionable outcroppings of breading on the stick surface. Ridges are projections of excess breading at the edges of the fish flesh. Depressions are objectionable visible voids or shallow areas which are lightly covered by breading. Blisters are measured by the swelling or exposed area in the coating resulting from the bursting or breaking of the coating. Curd refers to crater-like holes in the breading filled with coagulated albumin. Instances of these defects are measured by a plastic grid marked off in ¼-inch squares (1/16 square inch). Each square is counted as one whether it is full or fractional.

(4) “Blemishes” refers to skin, blood spots, or bruises, objectionable dark fatty flesh, carbon specks or extraneous material. Instances of blemishes refers to each occurrence measured by placing a plastic grid marked off in ¼ inch squares (1/16 square inch) over the defect area. Each square is counted as one whether it is full or fractional.

(5) “Bones” means the presence of potentially harmful bones in a stick. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.

(6) “Texture defects of the coating” refers to the absence of the normal textural properties of the coating which are crispness and tenderness. Coating texture defects are dryness, sogginess, mushiness, doughyness, toughness, pastiness, as sensed by starchiness or other sticky properties felt by mouth tissues; oiliness to the degree of impairment of texture; and/or mealiness.

(7) “Texture defects of the fish flesh” refers to the absence of normal textural properties of the cooked fish flesh, which are tenderness, firmness, arid moistness without excess water. Texture defects of the flesh are dryness, softness, toughness, and rubberyness.

(e) General definitions:

(1) “Small” (overall assessment) refers to a condition that is noticeable but is not seriously objectionable.

(2) “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.

(3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product,

(4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.

(f) “Minimum fish flesh content--End-product determination” refers to the minimum percent, by weight, of the average fish flesh content of three frozen fried fish sticks (sample unit for fish flesh determination), as determined by the following method:

(1) *Equipment needed.*

(i) Water bath (for example, a 3- to 4-liter beaker).
(ii) Balance accurate to 0.1 gram.
(iii) Clip tongs of wire, plastic, or glass.
(iv) Stop-watch or regular watch readable to a second.
(v) Paper towels.
(vi) Spatula, 4-inch blade with rounded tip.
(vii) Nut pick.
(viii) Thermometer (immersion type) accurate to ± 2° F.

(2) *Procedure.*

(i) Calculate the weight of three frozen fried fish sticks by dividing the declared net weight on the label by the number of fish sticks indicated on the label to obtain the weight of an individual fish stick and multiply by three. If the number of fish sticks contained in the package is not declared on the label, the actual weight of three frozen fried fish sticks shall be used:
(ii) Using tongs, place each stick individually in the water bath maintained at 63° F. to 120° F. and allow to remain until the breading becomes soft and can easily be removed from the still frozen fish flesh (between 10 to 110 seconds for sticks held in storage at O° F.).
(iii) At the end of the immersion, remove the fish stick from the water and blot the stick lightly with double thickness paper towelings. This step should be completed in no more than 7 seconds.
(iv) Scrape and remove the breading material and batter from the fish with the spatula removing the softened breading material and batter from the narrow sides and ends of the stick on the initial movements, followed by removing the material from the wider flat surfaces.

(v) Residual batter and breading may remain in some sticks prepared using batters that are difficult to remove after one dipping. When this occurs redip the partially "debreaded" stick in 63° to 86° F. (room temperature) water for approximately 2 seconds. Follow step (iii) toweling, and remove the softened residual batter and breading material.

(vi) Weigh all the “debreaded” fish sticks.

(vii) Calculate the percent fish flesh in the sample unit by the following formula:

% fish flesh = Weight of fish flesh (vi) x 100/Weight of three fried fish sticks (i)

(g) “Minimum fish flesh content--On-line determination” refers to the minimum percent fish flesh, by weight, of the average weight of three groups of five fish sticks (sample unit for fish flesh determination), as determined by the following:

(1) Equipment needed--Balance accurate to 0.1 gram.

(2) Procedure:

(i) Weigh three groups of five raw unbreaded fish sticks from the line. These weights should be recorded and averaged (average weight of three groups of five sticks) and percent fish flesh calculated immediately after the average weights are determined.

(ii) Calculate the percent fish flesh in the sample unit by using tile average weight of three groups of five unbreaded fish sticks and the declared net weight of five fried fish sticks. The declared net weight of five fried fish sticks is obtained by dividing the net weight declaration on the label by the number of fish sticks declared on the label and multiplying by 5. If the number of fish sticks is not declared on the label, the actual weight of five fried fish sticks shall be used.

% fish flesh = Weight of fish flesh [sample unit (i)] x 100/Declared or actual net weight of five fried fish sticks

NOTE: The percent fish flesh determined by the on-line method will usually differ from the percent fish flesh determined by the end-product method due to processing and variations associated therewith.

(iii) Frequency of on-line fish flesh content determination. A minimum of three determinations of fish flesh content shall be carried out for small production runs or lots, i.e., 3 x (three groups of five unbreaded fish sticks). For larger productions runs or lots, a minimum of one determination, i.e., 1 x (three groups of five unbreaded fish sticks) shall be carried out for every hour of production of product units of the same weight.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Use of alternate methods for determinations fish flesh content

(a) The official end-product method in Definitions(f) for determining fish flesh content shall be used for lot and appeal inspections, and for inspections for verification in official establishments when the on-line method is used.

(b) The on-line method in Definitions(g) for determining fish flesh content may be used in official establishments during processing operations.

Tolerances for certification of officially drawn samples

The sample rate and grade of specific lots shall be certified in accordance with Part 260, Subpart A of this chapter (Regulations Governing Processed Fishery Products).

Back to top

TABLE 1 - SCHEDULE OF POINT DEDUCTIONS PER SAMPLE UNIT OF 10 STICKS
(See footnotes at end of table.)

Factors Scored	Method of determining score	Deduct
Frozen State		
1. Condition of package	Small degree: Loose free oil, and/or moderate loose breading and/or moderate frost Large degree: Oil soaking through package and/or excessive loose breading and/or excessive amount frost	2 5
2. Ease of separation	Minor: Hand separated with difficulty. Each affect Major: Separated only by knife or other instrument. Each affected	1 2
3. Broken stick	Break or cut greater than ½ inch length or width. Each affected	10
4. Damaged stick	Mashed, mechanically and/or physically injured, misshaped or mutilated[1] Minor: 1 to 3 instances. Each affected Major: Over 3 instances. Each affected	 2 4
5. Size	Deviation in length or width between the 2 largest and 2 smallest sticks is: Up to ¼ inch Over ¼ inch and up to ½ inch Over ½ inch	 0 3 10
	Uniformity	
6. Weight	Weight ration of 2 heaviest divided by the 2 lightest sticks: Over 1.0 but not over 1.15 Over 1.15 but not over 1.3 Over 1.3 but not over 1.4 Over 1.4	 0 2 5 10
Cooked State		
7. Distortion	Minor: Bending, shrinking, twisting (¼ to ½ inch). Each affected Major: Excessive bending, shrinking, twisting (over ½ inch). Each affected	1 2
8. Color	Minor: Sticks differing slightly from average color of sticks in sample unit. Each affected Major: Sticks excessively dark or light from average color of sticks in sample unit. Each affected	2 4
9. Coating defects	Bare spots, blistering, ridges, breaks, curds[1] Minor: 1 to 3 instances. Each affected Major: Over 3 instances. Each affected	 1 3
10. Blemishes	Skin, blood spots, bruises and discolorations[1] Minor: 1 to 6 instances. Each affected Major: Over 6 instances. Each affected	 1 3
11. Bones	Sticks containing bones (potentially harmful). Each affected	10
Texture		
12. Coating	Small degree: Moderately dry, soggy, doughy or tough Large degree: Farinaceous (mealy), pasty, very tough	5 15
13. Fish Flesh	Small degree: Moderately dry, soft, mushy	5

	Large degree: Dry to point of fibrousness, very mushy tough or rubbery	15

[1]An instance = each 1/16 square inch (¼-inch square).

Frozen Raw Breaded Scallops and Frozen Fried Scallops

Product description

(a) *Frozen raw breaded scallops*-Frozen raw breaded scallops are:
(1) Prepared from wholesome, clean, adequately drained, whole or cut adductor muscles of the scallop of the regular commercial species, or scallop units cut from a block of frozen scallops that are coated with wholesome batter and breading;
(2) packaged and frozen according to good commercial practice and maintained at temperatures necessary for preservation; and
(3) composed of a minimum of 50 percent by weight of scallop meat.

(b) *Frozen fried scallops*-Frozen fried scallops are:
(1) Prepared from wholesome, clean, adequately drained, whole or cut adductor muscles of the scallop of the regular commercial species, or scallop units cut from a block of frozen scallops that are coated with wholesome batter and breading;
(2) precooked in oil or fat;
(3) packaged and frozen according to good commercial practice and maintained at temperatures necessary for preservation; and
(4) composed of a minimum of 50 percent by weight of scallop meat.

[44 FR 32392, June 6, 1979]

Styles

The styles of frozen raw breaded scallops and frozen fried scallops include:
(a) *Style I Random pack.* Scallops in a package are reasonably uniform in weight and/or shape. The weight or shape of individual scallops are not specified.
(b) *Style II Uniform pack.* Scallops in a package consist of uniform shaped pieces which are of specified weight or range of weights.

Types

(a) *Type 1.* Adductor muscle.
(b) *Type 2.* Adductor muscle with catch (gristle or sweet meat) portion removed.

[44 FR 32392, June 6, 1979]

Grades

(a) “U.S. Grade A” is the quality of frozen raw breaded scallops and frozen fried scallops that possess good flavor and odor; and for those factors of quality which are rated according to the scoring system outlined in this part, the total score is not less than 85 points.

(b) “U.S. Grade B” is the quality of frozen raw breaded scallops and frozen fried scallops that possess at least reasonably good flavor and odor; and for those factors of quality which are rated according to the scoring system outlined in this part, the total score is not less than 70 points.

(c) “Substandard” is the quality of frozen raw breaded scallops and frozen fried scallops that fail to meet the requirements of U.S. Grade B.

[42 FR 52782, Sept. 30, 1977. Redesignated and amended at 44 FR 32392, June 6, 1979]

Ascertaining the grade

The grade of frozen raw breaded scallops and frozen fried scallops is determined by examining the product in the frozen and cooked states. Factors of quality evaluated in ascertaining the grade of the product are flavor and odor appearance, uniformity, absence of defects, and character.

(a) Flavor and odor are rated directly by organoleptic evaluation. Score points are not assessed (see Evaluating the unscored factor of flavor and odor).

FACTORS	POINTS
Appearance	[1]25
Uniformity	[1]20
Absence of defects	40
Character	[1]15
Total Possible points	100

1 Frozen raw breaded scallops and frozen fried scallops which receive the maximum number of deduction points for any of these factors shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

[42 FR 52782, Sept. 30, 1977, as amended as 51 FR 34991, Oct. 1, 1986]

Evaluating the unscored factor of flavor and odor

(a) “Good flavor and odor” (essential requirements for a Grade A product) means that the cooked product has flavor and odor characteristics of good scallop meat and of the breading and is free from staleness and off-flavors and off-odors of any kind.

(b) “Reasonably good flavor and odor” (minimum requirements of a Grade B product) means that the cooked product is lacking in good flavor and odor, but is free from objectionable off-flavors and off-odors of any kind.

(c) “Substandard flavor and odor” (Substandard grade) means that the flavor and odor fails to meet the minimum requirements of “reasonably good flavor and odor.”

Evaluating and rating the scored factors of appearance, uniformity, workmanship defects, and character

Point deductions are allotted for each degree or amount of quality variation within each of the factors that are scored. The net score for each quality factor is obtained by subtracting the deduction-points assessed for that factor from the maximum points allotted to that factor. The total score for the product is the sum of the net scores for the four individually scored factors.

Appearance

(a) Appearance refers to the condition of the package and ease of separation in the frozen state and continuity and color in the cooked state.

(1) “Condition of the package” refers to freedom from packaging defects and the presence in the package of oil, and/or loose breading, and/or frost. Deduction points are based on the degree of the improper condition as small or large.

(2) “Ease of separation” refers to the difficulty of separating scallops that are frozen together after the frying operation and during freezing.

(3) “Continuity” refers to the completeness of the coating of the product in the cooked state. Lack of continuity is exemplified by breaks, ridges and/or lumps of breading. Each 1/6 square inch area of any break, ridge, or lump of breading is considered an instance of lack of continuity. Individual breaks, ridges, or lumps of breading measuring less than 1/16 square inch are not considered objectionable. Deduction points are based on the percentage of the scallops within the package that contain small and/or large instances of lack of continuity.

(4) “Color” refers to reasonably uniform color which is characteristic of the product in the cooked state Deviations in color are visually measured as “small” and “large”. A “small” instance of deviation in color means that the scallop varies noticeably from the predominating color of the package. A “large” instance of deviation in color means that the scallop varies markedly from the predominating color of the package. The deduction points assessed are based on the degree of deviation as small or large and the percentage by count of the scallops affected in the package.

(b) For the purpose of rating the factor of appearance, the schedule of deduction points in Table I applies. Frozen raw breaded scallops and frozen fried scallops which receive 25 deduction points for the factor of appearance shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

TABLE I-SCHEDULE OF POINT-DEDUCTIONS FOR VARIATIONS IN APPEARANCE

APPEARANCE SUB-FACTORS	METHOD OF DETERMINING SUB-FACTOR SCORE	PERCENT OF SCALLOPS AFFECTED		DEDUCTION POINTS
		Over	Not over	
Condition of the package in the frozen state	(a) Small (moderate amount of free oil and/or loose breading, and/or frost, and/or packaging defects).			2
	(b) Large (excessive amount of free oil, and /or loose breading, and/or frost, and/or packaging defects).			5
Ease of separation of the scallops in frozen state	Degree of ease of separation			
	Moderate (scallops separated by hand with difficulty)	0	30	1
	.....	30	70	2
		70	-	3
		0	30	4
		30	70	10
	Severe (scallops separated only by use of knife or other instrument).	70	-	15
	.....			
Continuity of the scallops in the cooked state	Lack of continuity (breaks, ridges, and lumps)[1]			
	Small (1 to 3 instances per scallops)	0	20	2
	.....	20	50	4
		50	70	6
		70	-	10
		0	20	4
		20	50	8
	Large (over 3 instances per scallop)	50	70	12
	.....	70	-	25
Color of the scallops in the cooked state	Deviation from predominating color of fried scallops in cooked state			
	Small instance of deviation in color means that the scallop varies noticeably from the predominating color of the package after cooking	0	10	0
		10	30	2
		30	-	4
		0	10	4

	Large instance of deviation in color means that the scallop varies markedly from the predominating color of the package after cooking.	10 30	30 -	10 25

[1]Each 1/16 square inch is considered an instance.

TABLE II-SCHEDULE OF POINT-DEDUCTIONS FOR UNIFORMITY

APPEARANCE SUB-FACTORS	METHOD OF DETERMINING SUB-FACTOR SCORE	PERCENT OF SCALLOPS AFFECTED		DEDUCTION POINTS
		Over	Not over	
A. Style I (Random pack)				
Uniformity of size and weight of scallops in frozen state	(a) Undesirable small pieces which pass through a sieve with 3/4 inch openings	0 10 20	10 20 -	3 6 10
	(b) Weight ratio of scallops remaining the sieve. The 15 percent largest scallops (minimum 3) divided by the 15 percent smallest scallops (minimum 3). The 15 percent to be determined by count.	- [1]2.0 [1]2.5 [1]2.9 [1]3.3	[1]2.0 [1]2.5 [1]2.9 [1]3.3 -	[1]0 [1]1 [1]3 [1]6 [1]10
A. Style I (Random pack)				
	(a) Small (scallops deviating ± 10 to 20 percent from average	0 30 70	30 70 -	3 5 10
	(b) Large (scallops deviating over ± 20 percent from average weight).	0 30 70	30 70 -	6 10 20

[1] Ratio

Uniformity

(a) Uniformity refers to the degree of freedom from undesirably small pieces and to the degree of uniformity of the weights of the frozen raw breaded scallops and frozen fried scallops within the package.

(1) For Style I, deduction points are assessed for:

(i) Undesirable small pieces as determined by the percent by count of pieces passing through a sieve with 3/4 inch openings, and;

(ii) uniformity of size of the scallops remaining in the sieve as determined by the ratio of the weight of the 15 percent largest scallops (minimum three) divided by the 15 percent smallest scallops (minimum three). The number constituting this percentage shall be the closest approximation of 15 percent, determined by count.

(2) For Style II, deduction points are based on the percentage by count of small or large scallops deviating from the average weight within the package.

(b) For the purpose of rating the factor of uniformity, the schedules of deduction points in Table II apply. Frozen raw breaded scallops and frozen fried scallops which receive 20 deduction points for this factor shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

Workmanship defects

(a) Workmanship defects refers to the degree of freedom from doubled and misshaped scallops and extraneous material. The defects of doubled and misshaped scallops are determined by examining the frozen product, while the defects of extraneous materials are determined by examining the product in the cooked state. Deduction points are based on the percentage by count of the scallops affected within the package.

(1) *Doubled scallops.* Two or more scallops that are joined together during the breading and/or frying operations

(2) *Misshaped scallops.* Elongated, flattened, mashed, or damaged scallop meats.

(3) *Extraneous material.* Extraneous are pieces or fragments of undesirable material that are naturally present in or on the scallops and which should be removed during processing.

(i) Examples of minor extraneous material include intestines, seaweed, and each aggregate of sand and grit within an area of ½-inch square.
(ii) Examples of major extraneous material include shell, aggregate of embedded sand or other extraneous embedded material that affects the appearance or eating quality of the product.

(b) For the purpose of rating the absence of defects, the schedule of deduction points in Table III applies.

TABLE III-SCHEDULE OF POINT DEDUCTIONS FOR WORKMANSHIP DEFECTS, SUBFACTORS, MISSHAPED OR DOUBLED SCALLOPS, AND EXTRANEOUS MATERIAL

APPEARANCE SUB-FACTORS	METHOD OF DETERMINING SUB-FACTOR SCORE	PERCENT OF SCALLOPS AFFECTED		DEDUCTION POINTS
		Over	Not over	
Misshaped or doubled scallops in the frozen state	Misshaped scallops (elongated, flattened, mashed, or damaged scallop meats).	0 10 20	10 20 -	3 7 15
Extraneous material in the cooked state	Doubled scallops (2 or more scallops joined together during breading and/or frying operation). Minor: Each instance of minor extraneous material in the sample unit per pound. Major: Each instance of major extraneous material in the sample unit per pound			1 5

[42 FR 52782, Sept. 30, 1977, as amended at 44 FR 32392, June 6, 1979]

TABLE IV-SCHEDULE OF POINT-DEDUCTIONS FOR CHARACTER SUBFACTOR OF TEXTURE

APPEARANCE SUB-FACTORS	METHOD OF DETERMINING SUB-FACTOR SCORE	DEDUCTION POINTS
Texture in the cooked state	**Texture of the cooking** Firm or crisp, but not tough, pasty, mushy, or oily Moderately tough, pasty, mushy, or oily Excessively tough, pasty, mushy, or oily **Texture of the scallop meat** Firm, but tender and moist Moderately tough, dry, and/or fibrous or mushy Excessively tough, dry, and/or fibrous or mushy	 0 5 15 0 5 15

Character

(a) Character refers to the texture of the scallop meat and of the coating and the presence of gristle in the cooked state. Deduction points are based on the degree of variation in the texture attributes of the coating and scallop meat or the relationship between the number of instances and the number of scallops within the package.

(1) *Gristle.* Gristle (type 2 only) is the tough elastic tissue usually attached to the scallop meat. Each instance of gristle is an occurrence.

(2) *Texture* refers to the firmness, tenderness, and moistness of the cooked scallop meat and to the crispness and tenderness of the coating of the cooked product. The texture of the scallop meat may be classified as a degree of mushiness, toughness, and fibrousness. The texture of the coating may be classified as a degree of pastiness, toughness, dryness, mushiness, or oiliness.

(b) For the purpose of rating the factor of character, the schedules of deduction points in Tables IV and V apply. Frozen raw breaded scallops and frozen fried scallops which receive 15 deduction points for the factor of character shall not be graded above Substandard regardless of the total score for the product. This is a limiting rule.

Back to top

TABLE V-SCHEDULE OF POINT-DEDUCTIONS FOR CHARACTER SUBFACTOR OF GRISTLE

Number of scallops per 7 ounces				Number of instances of gristle					
	0	1	2	3	4	5	6	7	8 or more
				Point deductions					
10 or less	0	2	4	6	8	10	-	-	-
11	0	2	4	6	8	10	-	-	-
12	0	2	4	6	8	10	-	-	-
13	0	1	3	5	8	10	-	-	-
14	0	1	3	5	7	9	10	-	-
15	0	1	2	4	6	8	10	-	-
16	0	1	2	4	6	8	10	-	-
17	0	1	2	4	6	8	10	-	-
18	0	1	2	3	4	6	8	10	-
19	0	1	2	3	4	6	8	10	-
20 or more	0	1	2	3	4	6	8	10	-

[42 FR 52782, Sept. 30, 1977, as amended at 44 FR 32392 June 6, 1979]

Definitions and methods of analysis

(a) *Percent of scallop meat* refers to percent, by weight, of scallop meat in sample as determined by the following method:

(1) Equipment needed.

(i) Water bath (3 to 4 liter beaker).

(ii) Balance accurate to 0.1 gram.

(iii) Clip tongs of wire, plastic, or glass.

(iv) Stop-watch or regular watch with second hand.

(v) Paper towels.

(vi) Spatula, 4-inch blade with rounded tip.

(2) Procedure.

(i) Weigh all scallops in the sample while still in a hard frozen condition.

(ii) Place each scallop individually in the water bath which is maintained at 63º to 86ºF. and allow the scallop to remain until such time as the breading becomes soft and can easily be removed from the still frozen meat (between 10 to 30 seconds for scallops held in storage at OºF.).

(iii) Remove the scallop from the bath: blot lightly with double thickness paper toweling; and scrape off or pick out coating from the scallop meat with the spatula or nutpicker.

(iv) Weigh all “debreaded” scallop meats.

(v) Calculate the percent of scallop meat in the sample by the following formula:

Percent scallop meat=weight of scallop meat (iv) x 100/Weight of frozen fried or breaded scallops(i)

(b) *Cooked state.* Cooked state shall mean that the product shall be cooked in accordance with the instructions accompanying the product.

(1) If specific instructions are lacking for fried scallops, the product for inspection shall be cooked as follows: Spread the frozen scallops on a foil covered baking sheet or a shallow pan. Place sheet or pan with frozen content at the mid-point of a properly ventilated oven preheated to 400 degrees Fahrenheit until thoroughly cooked, 15 to 20 minutes.

(2) If specific instructions are lacking for the breaded scallops, the product for inspection shall be cooked as follows: Place frozen, breaded product in wire mesh fry basket large enough to hold all items in single layer. Heat by immersing in 375· F (190· C) edible cooking oil 2-3 minutes or until items float to surface. After cooking, let items drain 15 seconds and place on paper napkin or towel to absorb excess oil.

(c) Definitions.

(1) “Moderate” refers to a scored condition that is readily noticeable but is not seriously objectionable.

(2) “Excessive” refers to a condition that is very noticeable and is seriously objectionable.

(3) “Instance” refers to an occurrence of an individual scored subfactor on a scallop.

[42 FR 52782, Sept. 30, 1977, as amended at 44 FR 32392, June 6, 1979; 51 FR 34991, Oct. 1, 1986]

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260 of this chapter.

Frozen Raw Breaded Shrimp

Product description

Frozen raw breaded shrimp are whole, clean, wholesome, headless, peeled shrimp which have been deveined where applicable of the regular commercial species, coated with a wholesome, suitable batter and/or breading. Whole shrimp consist of five or more segments of unmutilated shrimp flesh. They are prepared and frozen in accordance with good manufacturing practice and are maintained at temperatures necessary for the preservation of the product. Individual shrimp and/or pieces consolidated into larger units and covered with breading are not considered for grading under this standard.

Composition of the product

(a) Frozen raw breaded shrimp shall contain not less than 50 percent by weight of shrimp material when the weight of the shrimp material is determined by the end product method as set forth in Definitions and Method of Analysis(u).

(b) Shrimp material content of raw breaded shrimp may be determined by the on-line method as set forth in Definitions and Method of Analysis (v): Provided, that the results are at least in compliance with the shrimp material content requirement of 50 percent by weight when verified by the official end product method.

(c) Production methods employed in official establishments shall be kept relatively constant for each product lot so as to minimize variations in any factor which may affect the relative shrimp material content.

Styles

(a) Style I. “Regular Breaded Shrimp” are frozen raw breaded shrimp containing a minimum of 50 percent of shrimp material.

(b) Style II. “Lightly Breaded Shrimp” are frozen raw breaded shrimp containing a minimum of 65 percent of shrimp material.

Types

(a) Type I-Breaded fantail shrimp

(1) Subtype A. Split (butterfly) shrimp with the tail fin and the shell segment immediately adjacent to the tail fin.

(2) Subtype B. Split (butterfly) shrimp with the tail fin but free of all shell segments.

(3) Subtype C. Split (butterfly) shrimp without attached tail fin or shell segments.

(b) Type II-Breaded round shrimp

(1) Subtype A. Round shrimp with the tail fin and the shell segment immediately adjacent to the tail fin.

(2) Subtype B. Round shrimp with the tail fin but free of all shell segments.

(3) Subtype C. Round shrimp without attached tail fin or shell segments.

(c) Type III-Breaded split shrimp. [Reserved]

Grades

(a) “U.S. Grade A” is the quality of frozen raw breaded shrimp that when cooked possesses a good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 85 points.

(b) “U.S. Grade B” is the quality of frozen raw breaded shrimp that when cooked possesses a reasonably good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 70 points.

(c) “Substandard” is the quality of frozen raw breaded shrimp that fail to meet the requirements of “U.S. Grade B.

Ascertaining the grade

General. In addition to considering other requirements outlined in the standard, the following quality factors are evaluated in ascertaining the grade of the product.

(a) Factors not rated by score points: Flavor and odor. Flavor and odor are determined by organoleptic means after the product has been cooked in a suitable manner (Definitions(u)).

(b) Factors rated by score points: The quality of the product with respect to factors scored is expressed numerically on the scale of 100. Deductions from the maximum possible score of 100 are assessed for essential variations of quality within each factor. The score of frozen raw breaded shrimp is determined by observing the product in the frozen and thawed states.

Factors evaluated on the product in the breaded state

(a) Factors affecting qualities that are measured on the product in the breaded state are uniformity of size, condition of coating, extraneous material, and damaged breaded shrimp. For the purpose of rating the factors that are scored in the breaded state, the schedule of point deduction in Table 1 applies. This schedule of point deductions is based on the examination of one complete individual package or intended package (sample unit) regardless of the net weight of the contents of the package.

(b) The factor-ease of separation in the frozen state-shall be rated in addition to all other factors when frozen raw breaded shrimp is lot inspected on a lot basis.

Factors evaluated on unbreaded or thawed debreaded product

Factors affecting qualities that are measured on the product in the unbreaded or thawed debreaded state are degree of deterioration, dehydrations, sand veins, black spot, extra shell, extraneous material, and swimmerets. For the purpose of rating the factors that are scored in the unbreaded or thawed debreaded state, the schedule of point deductions in table 2 applies. This schedule of point deductions is based on the examination of 20 whole shrimp selected from the processing line or from one or more packages. Examination of this sample of 20 whole shrimp is continued under Definitions(u).

Hygienic processing
Frozen raw breaded shrimp shall be processed and maintained in accordance with the applicable requirements of the Good Manufacturing Practice Regulations contained in Part 128 of Title 21, CFR, and the applicable requirements contained in Part 260 of this chapter.

Definitions and methods of analysis

(a) “Fantail shrimp”: This type is prepared by splitting and peeling the shrimp except that for Subtype A, the tail fin remains attached and the shell segment immediately adjacent to the tail fin remains attached. Subtype B, the tail fin remains, but the shrimp are free of all shell segments. Subtype C, the shrimp are free of tail fins and all shell segments.

(b) “Round shrimp”: This type is the round shrimp, not split. The shrimp are peeled except that for Subtype A, the tail fin remains attached and the shell segment immediately adjacent to the tail fin remains attached. Subtype B, the tail fin remains, but the shrimp are free of all shell segments. Subtype C, the shrimp are free of all shell segments and tail fins.

Back to top

(c) Good flavor and odor: “Good flavor and odor”, essential requirements for a Grade A product, means that the cooked product has flavor and odor characteristics of freshly caught or well-refrigerated shrimp and the breading is free from staleness and off-flavors and off-odors of any kind. Iodoform is not to be considered in evaluating the product for flavor and odor.

(d) Reasonably good flavor and odor. “Reasonably good flavor and odor” minimum requirements of Grade B products, means that the cooked product may be somewhat lacking in the good flavor and odor characteristics of freshly caught or well-refrigerated shrimp but is free from objectionable off-flavors and objectionable off-odors of any kind.

(e) “Dehydration” refers to the occurrence of whitish areas on the exposed ends of the shrimp (due to the drying of the affected area) and to a generally desiccated appearance of the meat after the breading is removed.

(f) “Deterioration” refers to any detectable change from the normal good quality of freshly caught shrimp. It is evaluated by noting in the thawed product deviations from the normal odor and appearance of freshly caught shrimp.

(g) “Extraneous material” consists of non-edible material such as sticks, seaweed, shrimp thorax, or other objects that may be accidentally present in the package.

(h) Slight: “Slight” refers to a condition that is scarcely noticeable but does affect the appearance, desirability, and/or eating quality of breaded shrimp.

(i) Moderate: “Moderate” refers to a condition that is conspicuously noticeable but that does not seriously affect the appearance, desirability, and/or eating quality of the breaded shrimp.

(j) Marked: “Marked” refers to a condition that is conspicuously noticeable and that does seriously affect the appearance, desirability, and/or eating quality of the breaded shrimp.

(k) Excessive: “Excessive” refers to a condition that is very noticeable and is seriously objectionable and the product cannot be graded above Grade B; this is a limiting rule.

(l) Halo: “Halo” means an easily recognized fringe of excess batter and breading extending beyond the shrimp flesh and adhering around the perimeter or flat edges of a split (butterfly) breaded shrimp.

(m) Balling up: “Balling up” means the adherence of lumps of the breading material to the surface of the breaded coating, causing the coating to appear rough, uneven, and lumpy.

(n) Holidays: “Holidays” means voids in the breaded coating as evidenced by bare or naked spots.

(o) Damaged frozen raw breaded shrimp: “Damaged frozen raw breaded shrimp means frozen raw breaded shrimp that have been separated into two or more parts or that have been crushed or otherwise mutilated to the extent that their appearance is materially affected.

(p) Black spot: “Black spot” means any blackened area that is markedly apparent on the flesh of the shrimp.

(q) Sand vein: “Sand vein” means any black or dark sand vein that has not been removed, except for that portion under the shell segment adjacent to the tail fin when present.

(r) Extra shell: “Extra shell” means any shell segment(s) or portion thereof, contained in the breaded shrimp except the first segment adjacent to the tail fin for Type I, Subtype A, and Type II, Subtype A.

(s) Net weight: Net weight is determined by use of a balance and by following steps given below:

> Remove the overwrap. Weigh carton and all contents. Transfer breaded shrimp to balance and weigh. Weigh carton less shrimp but including waxed separators and inserts (if used), crumbs, and frost. Remove crumbs and frost from carton and separators. Weigh cleaned carton and separators.Net weight of the shrimp is the weight of the shrimp and of any loose breading and frost, exclusive of packaging material. The amount of loose breading and frost shall not exceed the limits of good manufacturing practices.

(t) Uniformity: “Uniformity” is determined for packs of various sizes by the ratio of the weights of the largest to the smallest breaded shrimp as outlined by the following schedule:

Up to 10 oz.	3 largest/3 smallest
10.1 oz. to 1.5 lb	6 largest/6 smallest
1.51 lb. to 2.5. lb.	8 largest/8 smallest
Over 2 1/2 lb	10 largest/10 smallest

(u) Percent shrimp material-official end product method:

(1) Equipment needed:
(i) Two-gallon container approximately 9 inches in diameter.
(ii) Two-vaned wooden paddle, each vane measuring approximately 1 inch by 3 inches.
(iii) Stirring device capable of rotating the wooden paddle at 120 rpm
(iv) Balance accurate to 0.01 ounce (0.1 gram).
(v) U.S. standard sieve ½ inch sieve opening; 12-inch diameter.
(vi) U.S. standard sieve-ASTM-No. 20, 12-inch diameter.
(vii) Thermometer (immersion type accurate to ±2ºF).
(viii) Forceps, with blunt points.
(ix) Shallow baking pan.
(x) Rubber policeman to remove bits of breading from shrimp.

(2) Procedure:

(i) Weigh sample (20 shrimp) to be debreaded. Fill container three-fourths full of water at 70-80ºF. Suspend the paddle in the container leaving a clearance of at least 5 inches below the paddle vanes, and adjust speed to 120 rpm. Add shrimp and stir for 10 minutes. Stack the sieves, the ½ inch mesh over the No. 20 and pour contents of container onto them. Set the sieves under a faucet, preferably with spray attached, and rinse the shrimp without rubbing the flesh, being careful to keep all rinsings over the sieves and not having the stream of water hit the shrimp on the sieve directly. Use a rubber policeman to remove adhering breading. Lay the shrimp out singly on the sieve as rinsed, split side down and tails up. Remove top sieve and drain on a 45-degree angle for 2 minutes, then transfer shrimp to balance. Rinse contents of the No. 20 sieve onto a shallow baking pan and collect any particles of shrimp material (flesh, tail fin), and add to shrimp on balance and weigh.

(ii) Calculate percent shrimp material.
% shrimp material=[Weight of debreaded sample (20 shrimp) x 100/Weight of sample (20 shrimp)] + 2

(v) Percent shrimp material--on-line method: Percent shrimp material determined by the on-line method refers to the percent by weight of shrimp material in a sample as described below:

(1) Equipment needed:

(i) Water bath (a container with a 3 to 4-liter capacity).
(ii) Balance accurate to 0.1 gram or 0.01 ounce.
(iii) Stop-watch or regular watch readable to a second.
(iv) U.S. Standard sieve ½ inch sieve opening; 12-inch diameter.
(v) U.S. Standard sieve ASTM No. 20, 12-inch diameter.
(vi) Thermometer (immersion type accurate to ± 2ºF.).
(vii) Forceps, with blunt points.
(viii) Shallow pan.
(ix) Rubber policeman to remove bits of breading from shrimp.

(2) Procedure:

(i) Select in a random manner, a composite sample of 20 unfrozen raw breaded shrimp from production line(s). Weigh the composite sample on a scale, determining the weight of the sample to the nearest 0.1 gram or 0.01 ounce. Place the sample in a water bath filled to three-fourths capacity and in a container maintained at 60 F.- 85 F. After shrimp are submerged in water and breading becomes soft, a “gentle” swirling action with hands may be applied to the shrimp to speed up the removal of the breading. Stack the sieves, the inch mesh over the No. 20 and pour contents of container into them. Remove top sieve and drain on 45-degree angle for 2 minutes then transfer shrimp to balance. Rinse contents of No. 20 sieve onto a shallow pan and collect any particles of shrimp material (flesh, tail fin, etc.), and add to the shrimp on the balance and then weigh.

(ii) Calculate percent shrimp material:
% shrimp material=Weight of debreaded sample x 100/Weight of sample

Back to top

(iii) Frequency of on-line shrimp material content determination. A minimum of three determinations of shrimp material content shall be carried out for small production runs or lots of the same style product, i.e., 3 x (20 unfrozen raw breaded shrimp). For larger production runs or lots of the same style product, a minimum of one determination, i.e., 1 x (20 unfrozen raw breaded shrimp) shall be carried out for every hour of production of product of the same style.

(w) Cooked in a suitable manner: "Cooked in a suitable manner" means cooked in accordance with the instructions accompanying the product. If, however, specific instructions are lacking, the product for inspection is cooked as follows:

(1) Transfer the breaded shrimp, while still frozen, in a wire mesh deep fry basket sufficiently large to hold the shrimp in a single layer without touching one another.

(2) Lower the basket into a suitable liquid oil or hydrogenated vegetable oil at 350 - 375 F. Cook for 3 minutes, or until the shrimp attain a pleasing golden brown color.

(3) Remove basket from the oil and allow the shrimp to drain for 15 seconds. Place the cooked shrimp on a paper towel or napkin to absorb the excess oil.

[47 FR 21841, May 20, 1982, as amended at 51 FR 34991, Oct. 1, 1986]

Use of alternate methods of shrimp material determination

(a) The official end product method in § 265.171(u) for determining shrimp material content shall be used for lot inspection, appeal inspection, and inspection for verification in official establishments when the on-line method is used.

(b) The on-line method in Definitions and method of analysis(v) (2) for determining shrimp material content may be used during processing operations.

Tolerances for certification of officially drawn samples.
The sample rate and grades of specific lots shall be certified in accordance with Part 260 of this chapter.

TABLE 1 -SCHEDULE OF POINT DEDUCTIONS FOR RATING IN BREADED STATE

FACTOR	QUALITY DESCRIPTION	DEDUCTION ALLOWED POINTED
1. Ease of separation in the frozen state	Separate easily after being removed from carton and exposed to room temperature for not more than 4 minutes.	3
	Separate easily after being removed from carton and exposed to room temperature for not more than 6 minutes.	8
	Does not separate easily after being removed from carton and exposed to room temperature for 6 minutes.	10

2. Uniformity	Ratio of weight of largest to smallest breaded shrimp in sample unit as defined under Definitions(t) Up to 1.50 ..... 1.51-1.60 ..... 1.61-1.70 ..... 1.71-1.80 ..... 1.81-1.90 ..... 1.91-2.00 ..... 2.01-2.10 ..... 2.11-2.20 ..... 2.21-2.30 ..... 2.31-2.40 ..... Over 2.40	0 1 2 3 4 5 6 7 8 9 10
3. Condition of coating	Degree of halo or balling up or holidays (identify type of defect by circling the proper word): Slight - each 20 percent by count or fraction thereof Moderate - each 20 percent by count or fraction thereof Marked - each 20 percent by count or fraction thereof Excessive - each 20 percent by count or fraction thereof	1 2 4 16
4. Damaged breaded shrimp	For each 5 percent by count or fraction thereof	3 1

	Tail fin broken or missing each 5 percent or fraction thereof (except in Type I, subtype C, and Type II, subtype C).	
5. Extraneous material	If extraneous material, except filthy or deleterious substances, is found in more than one package per lot, the entire lot shall be declared substandard[1].	

[1] Filthy or deleterious substances in food products constitute a violation of the Food, Drug, and Cosmetic Act. Products containing such substances are ineligible for the purpose of applying this document.

TABLE 2-SCHEDULE OF POINT DEDUCTIONS FOR EXAMINATION IN UNBREADED OR THAWED DEBREADED STATE

[Subtotals brought forward]

FACTOR	QUALITY DESCRIPTION	DEDUCTION ALLOWED POINTS
1. Degree of dehydration	Slight - each shrimp..... Moderate - each shrimp..... Marked - each shrimp..... Excessive - each shrimp.....	1 2 3 16
2. Deterioration	Slight - each shrimp..... Moderate - each shrimp..... Marked - each shrimp..... Excessive - each shrimp (provided, that if excessive deterioration occurs in more than one sample unit per sample, the entire lot shall be declared substandard).	2 5 10 20
3. Sand veins where applicable[1]	For each dark vein present deduct according to the following schedule: Equivalent in length to two segments ..... Equivalent in length to three segments..... Equivalent in length to for or more segments	 1 2 3
4. Black spot	Slight but obvious, on average ..... Moderate, on average ..... Marked - each shrimp.....	3 6 3
5. Extra shell (see subtypes definition).	(Beyond first segment adjacent to tail fin only for Type I, subtype A, and Type II, subtype A): Less than one whole extra shell segment..... One extra segment or more	 1 3
6. Swimmerets	For last pair only adjacent to tail fins ..... For more than last pair	1 3
7. Extraneous material	If extraneous material, except filthy or deleterious substances, are found in more than one package per lot, the entire lot shall be declared substandard[2]	

[1] Deduction points for sand veins shall not be applied to shrimp smaller than 70 count per pound in the raw, headless state. The corresponding size in the breaded state is 40 count per pound and 80 count per pound n the peeled state.

[2] Filthy or deleterious substances in food products constitute a violation of the Food, Drug. and Cosmetic Act. Products containing such substances are ineligible for the purpose of applying this document.

[42 FR 52776, Sept 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986

Frozen Raw Scallops

Description of the product

Frozen raw scallops are clean, wholesome, adequately drained, whole or cut adductor muscles of the scallop of the regular commercial species. The portion of the scallop used shall be only the adductor muscle "eye" which controls the shell movement. Scallops shall be washed, drained, packed, and frozen in accordance with good manufacturing practices and are maintained at temperatures necessary for the preservation of the product. Only scallops of a single species shall be used within a lot.

Styles

(a) *Style I*. Solid pack scallops are frozen together into a solid mass.
- (1) *Substyle a.* Glazed.
- (2) *Substyle b.* Not glazed.

(b) *Style II.* Individually quick frozen pack (IQF) scallops are individually quick frozen. Individual scallops can be separated without thawing.
- (1) *Substyle a.* Glazed.
- (2) *Substyle b.* Not glazed.

Types

(a) *Type 1.* Adductor muscle.

(b) *Type 2.* Adductor muscle with catch (gristle or sweet meat) portion removed.

Grades

(a) "U.S. Grade A" is the quality of frozen raw scallops that:
- (1) possess food flavor and odor and;
- (2) for those factors that are rated in accordance with the scoring system outlined in this part, have a total score of 85 to 100 points.

(b) “U.S. Grade B” is the quality of frozen raw scallops that:
(1) possess at least reasonably good flavor and odor, and;
(2) rate a total score of not less than 70 points for these factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) “Substandard” is the quality of frozen raw scallops that meets the requirements of Description of the product, but otherwise fails to meet the requirements of “U.S. Grade B.”

Determination of the grade

In a plant under Contract USDC Inspection, the grade is determined by examining the product for factors 1 to 5 in the fresh or thawed state and Factor 6 in the cooked state. For lot inspection, examination of the product for Factor, 1 is carried out in the frozen state and 2 to 5 in the thawed state. Factor 6 is examined in the cooked state.

(a) *Factors rated by score points.* Points are deducted for variation in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100, the minimum score is 0.

(b) *Factors not rated by score points.* The factor of “Flavor and odor” is evaluated organoleptically by smelling and tasting the product in the cooked state.

(1) Good flavor and odor (essential requirements for a U.S. Grade A product) means that the product has the typical flavor and odor of the species and is free from bitterness, staleness, and off-flavor and off-odors of any kind.

(2) Reasonably good flavor and odor (minimum requirements for a U.S. Grade B product) means the product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

Definitions and methods

(a) *Selection of the sample unit.* The sample unit shall consist of the primary container and its entire contents. The number and size of sample units to be examined shall be as indicated in § 260.61.

(b) *Examination of sample, frozen state.* When this product is examined under Contract USDC Inspection, the samples are examined for Factor 1 in Table 1 in the fresh or thawed state. When the product is lot inspected, the samples are examined for Factor 1, in Table 1 in the frozen state.

(1) “Dehydration” refers to the loss of moisture from the scallop’s surface during frozen storage. Small degree of dehydration is color-masking but can be easily scraped off. Large degree of dehydration is deep, color-masking, and requires a knife or other instrument to scrape it off.

(c) *Examination of sample, thawed state.* When necessary, thawing the sample is best accomplished by enclosing it in a water impermeable film type bag and immersing in an agitated water bath at 68ºF. ± 2ºF. The complete thawing of the product is determined by gently squeezing the bag occasionally until no hard core or ice crystals are felt.

(1) Undesirable small pieces are pieces which will pass through the openings in a 3/4 inch sieve for larger size scallops. For the smaller scallops, such as bay scallops, undesirable pieces are pieces of scallops that do not have the general conformation of the other scallops. The total weight of these pieces within a sample unit will be obtained. These pieces shall not be used for determining the weight ratio.

(2) Uniformity of size refers to the degree of weight uniformity of the individual scallops. This factor is measured by obtaining a weight ratio between the largest and smallest scallops. The determination is made on the thawed scallops by dividing the total weight of the 15 percent (by count) of the largest scallops by the 15 percent (by count) of the smallest scallops.

(3) “Color” refers to reasonably uniform color characteristics of the species used within an individual container. Only noticeable variation in color from the predominating color of the scallops in the container is considered. Medium gray to black colored scallops are not to be graded.

(4) “Extraneous materials” are pieces or fragments of undesirable material that are naturally present in or on the scallops and which should be removed during processing.

(i) An instance of minor extraneous material includes but is not limited to each occurrence of intestines, seaweed, etc., and each aggregate of sand and grit up to ½-inch square and located on the scallop surface. Deduction points shall be assessed for additional instances of intestines, seaweed, etc., and aggregates of sand and grit up to ½-inch square.

(ii) An instance of major extraneous material includes but is not limited to each instance of shell or aggregate of embedded sand or other extraneous embedded material that affects the appearance or eating quality of the product.

(d) *Examination of sample, cooked state.* Cooked state means the state of the sample after being cooked. Place at least 25 percent by weight of the thawed sample from each sample unit into a boilable film-type pouch and seal. Submerge the pouch and its contents into boiling water for about 3 or 4 minutes or until cooked. Alternatively, the product is placed into a baking pan lined with aluminum foil. A cover of aluminum foil is crimped around the edges of the top of the pan. The pan is placed in an oven that has been preheated to 450ºF. for 20 minutes or until cooking has been completed. Flavor and odor and texture shall be evaluated in the cooked state.

(1) “Texture” refers to the firmness, tenderness, and moistness of the cooked scallop meat, which is characteristic of the species.

(e) *General definitions.*

(1) “Small” (overall assessment) refers to a condition that is noticeable but is only slightly objectionable.

(2) “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.

(3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.

(4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.

(5) “Net weight” means the total weight of the scallop meats within the package after removal of all packaging materials, ice glaze, or other protective materials.

[42 FR 52782, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260 of this chapter (Regulations Governing Processed Fishery Products).

TABLE 1 -SCHEDULE OF POINT DEDUCTIONS PER SAMPLE

FACTORS SCORED	METHOD OF DETERMINING SCORE	DEDUCT
Frozen State		
1. Dehydration	Small degree: Easily scraped off of each 10 percent of top surface affected	2
	Large degree: Deep dehydration not easily scraped off, affecting each 10 percent of surface	4
Fresh or Thawed State		
1. Undesirable pieces	Percent by weight: Up to 5 percent ..... Over 5 percent, not over10 percent ..... Over 10 percent	 3 6 16
3. Uniformity	Weight ratio: Over 2.5 but not over3.0	 4 6 10

	Over 3.0 but not over3.3 ..... Over 3.3	
4. Color	Each 10 percent by count of non-uniform colored scallops in excess of the 10 percent of non-uniform colored scallops permitted	10
5. Extraneous material	Minor: Each instance of minor extraneous material in the sample unit per pound Major: Each instance of major extraneous material in the sample unit per pound	1 5
Cooked State		
6. Texture	Firm but tender and moist Small degree: Moderately tough, dry, and fibrous or mushy Large degree: Excessively tough, dry, and fibrous or mushy	0 5 15

General Fillets (Rev. Aug 2024)

1. **Introduction**

The ***US Grade Standard for Fish Fillets*** is a set of workmanship and sensory quality criteria that set forth the *NOAA Seafood Inspection Program (SIP) Requirements* that must be met by designated product lots bearing NOAA SIP Official Insignia.

2. **Scope**

The US Grade Standard for Fish Fillets applies to fish that meet the following Product Definition and Product Description.

2.1 - Product Definition

This standard shall apply to chilled or frozen fillets of freshwater or saltwater finfish (fish) of any species, except of North American Freshwater Catfish. Fillets shall not contain any additional ingredient except those used as moisture retention agents.

Fillets are slices of practically boneless fish flesh of irregular size and shape, which are removed from the carcass by cuts made parallel to the backbone and sections of such fillets cut to facilitate packing.

2.1.1 Alternative Acceptable Product Presentation

Bone-in: For products labeled as bone-in, workmanship nonconformance points will not be assessed for the presence of bones.

Back to top

Boneless: Assessment of the additional label claim of "boneless" is determined during the regulatory compliance inspection. Workmanship nonconformance points are not assessed during grading.

2.2 - Product Description

This standard applies to raw, partially cooked, or cooked fillets presented to the buyer or consumer in any combination of the following **product types**, **product styles**, and **product forms**.

Product Types	Product Styles	Product Forms
● Chilled and Frozen, Unglazed ● Block Frozen, Glazed ● Individually Quick Frozen, Glazed	● Single Fillet ● Butterfly Fillet	● Skin-On, Scale-On ● Skin-On, Scaleless ● Skinless

3. Sampling Plan[4]

For each designated lot, lot quality conformance is based on a representative sample (sample size) as outlined in the Seafood Inspection Manual, Part 4, Chapter 19.

4. Eligibility for use of NOAA SIP Official Insignia

Final lot quality determination of high, medium, or acceptable quality (based on the assessment of individual sample units and overall lot conformance) governs the eligibility for use of NOAA SIP Official Insignia.

Eligibility for use of NOAA SIP Official Insignia	
Lot Quality Determination	**NOAA SIP Official Insignia**
High	US Grade A Shield PUFI Mark
Medium	PUFI Mark

[4] National Institutes of Standards and Technology, US Department of Commerce, Engineering Statistics Handbook, 3.3.3 Define Sampling Plan (link).

Eligibility for use of NOAA SIP Official Insignia	
Acceptable	None

5. Requirements for Use of NOAA SIP Official Insignia

For use of NOAA SIP Official Insignia, fish covered by this US Grade Standard must meet:

- Regulatory Requirements
- NOAA SIP Production Requirements
- Quality Assessment Requirements

5.1 - Regulatory Requirements

In order to enter commerce, designated lots:

5.1.1 - Must meet all applicable label regulations, and

5.1.2 - May not be adulterated.

5.2 - NOAA SIP Production Requirements

Designated lots must meet applicable NOAA SIP Production Requirements.

5.2.1 - Fillets are slices of practically boneless fish flesh of irregular size and shape, which are removed from the carcass by cuts made parallel to the backbone and sections of such fillets cut to facilitate packing.[5]

5.3 - Quality Assessment Requirements

Each sample unit shall be assessed for Workmanship Quality Attributes and Sensory Quality Attributes and designated high, medium, or acceptable quality based on the sample unit quality assessment.

5.3.1 - Workmanship Quality Attributes

5.3.1.1 - Unusable fish material, and

5.3.1.2 - Fillets that are atypical, damaged, dehydrated, discolored, improperly cleaned, and improperly cut and/or trimmed.

5.3.2 - Sensory Quality Attributes

[5] The product may contain bones when it is clearly labeled on the principal display panel to show that the product contains bones, e.g. Bone-In.

5.3.2.1 - Odor/Flavor, and

5.3.2.2 - Texture

6. Sample Unit Quality Assessment

6.1 - Workmanship Quality Attributes - For each *Workmanship Quality Attribute,* a sample unit is assessed nonconformance points by using a combination of a (1) numerical value for a percent by weight or percent by count; and (2) multiplication factor as outlined in Appendix A and B.

The *Sample Unit Quality Assessment* for *Workmanship Quality Attributes* is designated *High*, *Medium,* or *Acceptable* based on the total nonconformance points for the sample unit.

Workmanship Quality Attributes	
Total Nonconformance Points	**Sample Unit Quality Assessment**
≤ 20	High
>20 - ≤ 50	Medium
> 50	Acceptable

6.2 - Sensory Quality Attributes - For *Sensory Quality Attributes*, each sample unit shall be evaluated for (1) *Odor/Flavor* and (2) *Texture.* The *Sample Unit Quality Assessment* for *Sensory Quality Attributes* is designated (1) *High or* (2) *Acceptable* based on the lowest quality category for the sample unit.

Sensory Quality Attributes		
Odor/Flavor	**Texture**	**Sample Unit Quality Assessment**
High	High	High
Acceptable		Acceptable
High	Acceptable	Acceptable
Acceptable		

7. Lot Quality Determination

7.1 - Workmanship Quality Lot Determination - The determination is based on a sample size (n) and acceptance number (c) as outlined in the Seafood Inspection Manual, Part 4.

7.1.1 - The acceptance number (c) is not exceeded.

7.1.1.1 - The highest quality assessment assigned to a single sample unit for Workmanship Quality Attributes.

7.1.2 - The acceptance number (c) is exceeded.

7.1.2.1 - The lowest quality assessment assigned to a single sample unit for Workmanship Quality Attributes

7.2 - Sensory Quality Lot Determination - The lowest quality assessment assigned to a single sample unit for Sensory Quality Attributes.

7.3 - Lot Quality Determination - The lowest determination assigned to either Workmanship Quality Lot Determination or Sensory Quality Lot Determination.

Lot Quality Determination and Use of NOAA SIP Official Insignia			
If Workmanship Quality Lot Determination is…	**…and Sensory Quality Lot Determination is…**	**…then Lot Quality Determination is…**	**…and the lot is eligible for use of the following NOAA SIP Official Insignia.**
High	High	High	US Grade A Shield PUFI Mark
Medium	High	Medium	PUFI Mark
Acceptable	High	Acceptable	None
High, Medium, or Acceptable	Acceptable	Acceptable	None

Appendix A Workmanship Quality Attributes - Definitions, Assessments, and Multiplication Factors		
Chilled or Thawed State		
Definitions[6]	**Assessments**	**Multiplication Factors**
Unusable Fish Material: any material that is derived from the fillets, including, but not limited to, detached bones, detached fins, detached girdles, detached parasites, detached scales, detached skins, and loose fish flesh particles weighing less than 1 ounce.	**Percent by Weight**	**4.00**
Atypical Fillets: pronounced deviations from the normal appearance of freshly caught, healthy finfish including, but not limited to, abnormal conditions and diseased conditions. ● **Abnormal conditions:** unusual flesh conditions such as a (1) chalky, dry, fiber-less, granular appearance; (2) jellied, gelatinous, glossy, slimy, translucent appearance; (3) milky white, mushy, pasty or fluidized appearance, and (4) excessive gaping or excessive separation of the fish flesh that affects the usability of the fillet. ● **Disease conditions:** unusual flesh and/or skin conditions, not zoonotic in origin, affecting appearance and/or texture, separate and distinct from discoloration workmanship quality attributes.	**Percent by Count**	**2.10**
Damaged Fillets: crushed or mangled which materially affects its usability, including, but not limited to, distortion, honeycombing, and holes. ● **Distortion**: visible appearance of flesh being distorted or twisted. ● **Honeycombing**: visible appearance of discrete holes or openings of varying size on the flesh's surface, that results in an overall sponge-like or honeycomb appearance. ● **Holes:** perforations in the flesh.	**Percent by Count**	**0.80**
Dehydrated Fillets: noticeable dry, white fibrous appearance on the surface of the flesh present in the frozen state and present in the thawed state.	**Percent by Count**	**1.75**

[6] Attributes that are described in the plural apply to one or more instances (e.g., a single bruise or multiple bruises are covered by the Workmanship Attribute "Bruises").

Discolored Fillets: discolored flesh or skin including, but not limited to, belly burn, blood spots, bruises, and discolored fish flesh or surface fat. ● **Belly burn:** yellowish to brownish spots in the flesh of the belly cavity. ● **Blood spots:** red, brownish red, or dark spots in the flesh. ● **Bruises:** localized, darkened (reddish-brown) blood-filled areas in the flesh. ● **Discolored fish flesh or surface fat:** darkened or lightened areas of the light meat or increased yellowing or rusting of the dark meat surface fat.	**Percent by Count**	**1.10**
Improperly Cleaned Fillets: inadequate removal of undesirable fish material during the cleaning process, including, but not limited to, the presence of attached belly lining, attached scales, visceral material, and parasites (5 or more). ● **Attached belly lining**: thin grayish to black belly membrane that lines the stomach cavity. ● **Attached scales:** rigid plates that grow out of a fish's skin to provide protection and assessed only if product form is scaleless. ● **Visceral material**: inadequate removal of internal viscera from the cavity such as the air bladder, blood, digestive tube and its accessory glands, gonads, roe, and soft internal organs. ● **Parasites**: organisms present in or on the fish such as but not limited to nematodes, roundworms, cestodes, tapeworms, trematodes, and flukes and are assessed only if the fillet has 5 or more visible parasites.	**Percent by Count**	**0.50**

Improperly Cut and/or Trimmed Fillets: irregular, inadequate, unnecessary, or improper knife or blade cuts or trimmings present, including, but not limited to, the presence of attached collarbone, attached fins, attached girdles, attached lace (frill); attached or detached skin; embedded bones, ragged edges, and tears.
 	
● **Attached collarbone**: inedible curved linear bony appendage (large white, circular-shaped bone) at the anterior end of fillet.
● **Attached fins:** organs of locomotion consisting of thin tissue supported by cartilaginous or bony rays.
● **Attached girdles:** inedible bony and cartilaginous structures at the base of the pectoral and pelvic fins.
● **Attached lace (frill)**: fleshy fin tissue adhering to the edge of a flatfish.
● **Bones:** one of the hard parts of the skeleton of a vertebrate.
  ○ Bones are nonconforming when a practically boneless fillet contains five (5) or more bones.
● **Ragged edges**: irregular or shredded appearances of the fillet or fillet edge.
● **Skin**: thin layer of tissue forming the natural outer covering of the body of a fish.
  ○ Skin that is attached or partially attached is nonconforming when the product form is skinless.
	Percent by Count	**0.27**

○ Skin that is missing or partially detached is nonconforming when the product form is skin-on. ● **Tears:** lacerations in the flesh.		

Back to top

Appendix B **Workmanship Quality Attributes – Quality Assessment Calculations** (Please note: calculations are rounded to the nearest hundredths.)	
For each *Workmanship Quality Attribute,* a sample unit is assessed nonconformance points by determining the percent by weight or percent by count and then multiplying the numerical value by the multiplication factor.	
Percent by Weight	**Points**
Unusable Fish Material	
$Round\left[\left(\frac{Weight\ of\ Unusable\ Fish\ Material}{Net\ Weight\ of\ Sample\ Unit}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Weight's\ Numerical\ Value\ X\ 4.00)$
Percent by Count	**Points**
Atypical Fillets	
$Round\left[\left(\frac{Number\ of\ Atypical\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 2.10)$
Damaged Fillets	
$Round\left[\left(\frac{Number\ of\ Damaged\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 0.80)$
Dehydrated Fillets	
$Round\left[\left(\frac{Number\ of\ Dehydrated\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 1.75)$
Discolored Fillets	
$Round\left[\left(\frac{Number\ of\ Discolored\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 1.10)$
Improperly Cleaned Fillets	
$Round\left[\left(\frac{Number\ of\ Improperly\ Cleaned\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 0.50)$
Improperly Cut and/or Trimmed Fillets	
$Round\left[\left(\frac{Number\ of\ Improperly\ Cut/Trimmed\ Fillets}{Number\ of\ Fillets}\right)\ X\ 100\right]$	$Round\ (\%\ by\ Count's\ Numerical\ Value\ X\ 0.27)$

Fish Fillet Inspector Instructions

Part 1 – Introduction

The *US Grade Standard for Fish Fillets* stipulates the NOAA SIP requirements that must be met for products to bear NOAA SIP official insignia.

Scope

The following ***NOAA SIP Product Inspection Instructions*** provide step-by-step directions and related guidance on how to complete and record regulatory compliance inspection results and NOAA SIP conformance inspection results using the ***NOAA SIP Supplemental Worksheet and NOAA FORM 89-821***.

Part 2 – Follow the *NOAA SIP Product Inspection Instructions* found in Sections 1, 2, 3, and 4 to complete the Supplemental Worksheet and NOAA FORM 89-821

The Instructions are divided into four sections, each section is sequenced in the order that each activity is to be performed.

Section 1 – The Lot Parameters

To establish key details for each lot evaluated for regulatory compliance, the individual performing the inspection will complete Administrative Information and Product Description Information.

Section 2 – Regulatory Compliance Inspection Results

All foods, including fish and fishery products, must adhere to labeling regulations and be free from any adulteration. The results of Regulatory Compliance Inspection activities will determine whether a lot appears to meet the necessary regulatory requirements for entry into commerce.

Section 3 – NOAA SIP Quality Inspection Results

To meet NOAA SIP requirements for use of NOAA SIP official insignia, all foods, including fish and fishery products, must meet labeling regulations and must meet quality assessment criteria.

Section 4 – Finalized Inspection Documentation

To finalize the inspection documentation, the individual performing the inspection will complete the NOAA SIP Official Scoresheet 89-821 by entering any relevant comments/observations and their wet (ink) or electronic signature.

Section 1 – Lot Parameters

The completion of lot parameters information establishes the basis for the subsequent inspection activities.
Complete the NOAA FORM 89-821 for Fish Fillets.

Step 1 – Complete the Administrative Information for the fish or fishery product lot.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	SCORESHEET For: FISH FILLETS - Supersedes NOAA FORM 89-851	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	PAGE OF PAGES DATE

CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER			POUNDAGE	SPECIES	ORIG. COUNTRY
				NUMBER	SIZE	KIND			

PRINCIPAL TITLE OF LABEL		PACKER OR DISTRIBUTOR	

Instructions:

1. Record the PAGE OF PAGES.
2. Record the DATE.
3. Record the CO. CODE OR APPLICANT.
4. Record the INSPECTOR'S NO.
5. Record the INSPECTION TYPE.
6. Record the REF. LOT NO.
7. Record the CONTAINER (NUMBER, SIZE, and KIND).
    a. Container - refers to the master case.
    b. Number - number of master cases that comprise the lot.
    c. Size - weight of the master case.
    d. Kind - number and weight of primary (1/15#, 4/3#)
8. Record the POUNDAGE.
9. Record the SPECIES.
10. Record ORIG. COUNTRY.
11. Record the PRINCIPAL TITLE OF LABEL.
12. Record the PACKER OR DISTRIBUTOR.

In the example below: the Page of Pages is **1 of 1**, the Inspection Date is **5/4/24**, the Co. Code or Applicant is **Seafood Company LLC**, the Inspector's No. is **7057**, the Inspection Type is **PUFI**, the Ref. Lot No. is **1234ABCD**, the Container (Number, Size, and Kind) is **1200**, **10 lbs.**, **5/2 #**, the poundage is **12,000**, the Species is **Tilapia**, the Orig. Country is **USA**, the Principal Title of Label is **Tilapia Fillets I.Q.F. 2 – 4 oz.**, and the Packer or Distributor is **Seafood Company LLC**.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	SCORESHEET For: FISH FILLETS - Supersedes NOAA FORM 89-851	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	PAGE OF PAGES 1 1 DATE 5/4/24

CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER			POUNDAGE	SPECIES	ORIG. COUNTRY
				NUMBER	SIZE	KIND			
Seafood Company LLC	7057	PUFI	1234ABCD	1200	10 lbs.	5/2#	12,000	Tilapia	USA

PRINCIPAL TITLE OF LABEL	Tilapia Fillet I.Q.F. 2 - 4 oz.	PACKER OR DISTRIBUTOR	Seafood Company LLC

Section 2 - Regulatory Compliance Inspection Results

The results of Regulatory Compliance Inspection activities will determine whether a lot appears to meet the necessary regulatory requirements for entry into commerce

Step 1 – Follow the **NOAA SIP Regulatory Compliance Inspection Procedures** that provide guidance on how to complete each inspection activity.

ITEMS INSPECTED		SAMPLE NUMBER (INSERT AS NEEDED)													AVERAGE
CONTAINER IDENTIFICATION															
NET WEIGHT (lb. or oz.)	DECLARED														
	ACTUAL														
COUNT PER (lb. or package)	DECLARED														
	ACTUAL														
PORTION WEIGHT (oz.)	DECLARED														
	ACTUAL														

Step 2 – When applicable, Determine Count per Package Compliance. Count per package compliance is determined on a Lot average basis.

Step 3 – When applicable, determine Sample Unit Portion Weight Range Compliance. Portion weight compliance is determined on a Lot average basis.

Complete the Supplemental Worksheet – Portion Weight Information

Portion weight compliance is determined on a lot average basis. A label claim can be a declared single weight (e.g. 4.0- ounce fillet portions) or a declared weight range (e.g. 4.0 - 6.0 ounce fillets).

1. For Single Weight declared, select and record the individual weights of the 10 smallest fillets. If the sample unit contains less than 10 fillets, weigh all fillets from the sample unit.
2. For Weight Range declared, select and record the individual weights of 10 of the smallest fillets and 10 of the largest. If the sample unit contains less than 20 fillets, weigh all the fillets from the sample unit.

In the example below, the **Portion Weight** of each fillet portion has been entered for all six (6) sample units.

Portion Weight Information						
Deglazed Individual Fillet Weights in Ounces						
Sample Unit Number	1	2	3	4	5	6
1.	4.01	4.01	3.50	4.01	3.00	4.01
2.	4.40	4.40	3.40	4.40	3.00	4.40
3.	3.98	4.00	3.98	4.40	3.00	3.98
4.	4.00	4.00	3.88	4.40	4.00	3.88
5.	3.98	4.40	3.98	4.00	2.50	4.40
6.	4.00	4.40	3.43	4.03	2.50	4.40
7.	4.40	3.98	3.88	4.00	3.00	3.98
8.	4.01	4.01	3.50	4.00	3.00	4.01
9.			3.40		2.50	
10.					2.50	
11.					3.00	

3. Calculate the **Portion Weight- Sample Unit Average** for each sample unit.

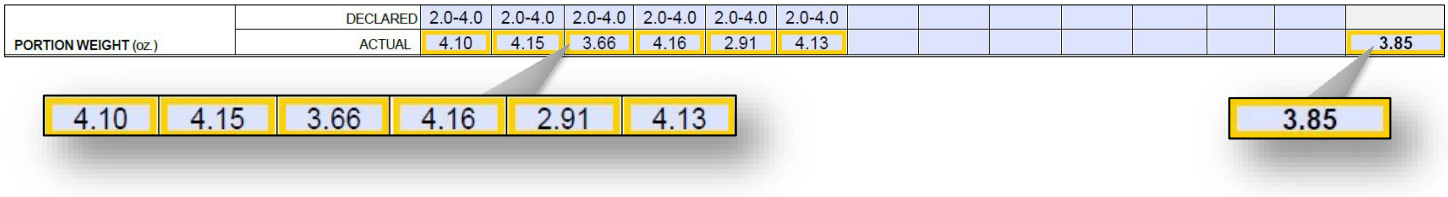
In the example below, the **Portion Weight- Sample Unit Average Portion** of each fillet portion has been entered for all six (6) sample units.

Back to top

Deglazed Individual Fillet Weights in Ounces						
Sample Unit Number	1	2	3	4	5	6
1.	4.01	4.01	3.50	4.01	3.00	4.01
2.	4.40	4.40	3.40	4.40	3.00	4.40
3.	3.98	4.00	3.98	4.40	3.00	3.98
4.	4.00	4.00	3.88	4.40	4.00	3.88
5.	3.98	4.40	3.98	4.00	2.50	4.40
6.	4.00	4.40	3.43	4.03	2.50	4.40
7.	4.40	3.98	3.88	4.00	3.00	3.98
8.	4.01	4.01	3.50	4.00	3.00	4.01
9.			3.40		2.50	
10.					2.50	
11.					3.00	
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						
Portion Weight- Sample Unit Average	4.10	4.15	3.66	4.16	2.91	4.13

4. Record the Portion Weight- Sample Unit Average on the NOAA FORM 89-821 **Portion Weight (oz.)**

In the example below, the **Portion Weight (oz.)** of each fillet portion has been entered for all six (6) sample units. The lot average for portion weight is **3.85**.



Section 3 – NOAA SIP Quality Inspection Results

Introduction

Workmanship Quality Attributes are assessed nonconformance points on a percent by weight or a percent by count basis while the sample unit is in the chilled or thawed state.

Sensory evaluation is used to determine whether the seafood products are free from decomposition and taint and comply with regulatory requirements. Sensory evaluation is also used to determine whether seafood products meet sensory quality eligibility requirements for the use of NOAA SIP Official Insignia.

Complete the NOAA SIP Supplemental Worksheet for Fish Fillets.

Step 1 – Complete the Administrative Information for the fish or fishery product lot.

NOAA SIP Supplemental Worksheet for Fish Fillets			
Lot Parameters			
Administration Information		**Product Description Information**	
Inspection Date		Product Type	
Inspection Type		Product Style	
Approved Establishment Company Name		Product Form	
Name and (Title or NOAA SIP Number)		Lot Number	

Instructions:

1. Record the Inspection Date.
2. Record the Inspection Type.
3. Record the Approved Establishment Company Name for which this inspection is being conducted.
4. Record the Name and (Title or NOAA SIP Number) of the person performing the inspection.

In the example below: the Inspection Date is **May 4, 2024**, the Inspection Program Type selected is **PUFI**, the Approved Establishment Company Name is **Seafood Company LLC**, and the name of the person performing the inspection is **Erika Lensher #7057**.

Administration Information	
Inspection Date	May 4, 2024
Inspection Type	PUFI
Approved Establishment Company Name	Seafood Company LLC.
Name and (Title or NOAA SIP Number)	Erika Lensher #7057

Step 2 – **Complete the Product Description Information – Product Type, Style, Form and Lot Number**. The product description information provides additional important details about the unique fish or fishery products being produced.

1. Record the **Product Type**.
2. Record the **Product Style**.
3. Record the **Product Form**.
4. Record the **Lot Number.**

In the example below, the Product Type is **Individually Quick Frozen (IQF), Glazed**, the Product Style is **Single Fillet**, the Product Form is **Skinless**, and the Lot Number is **1234ABCD**.

Product Description Information	
Product Type	Individually Quick Frozen (IQF), Glazed
Product Style	Single Fillet
Product Form	Skinless
Lot Number	1234ABCD

Workmanship Quality Attributes Criteria.

For detailed instruction on defining and identifying each attribute, see the *NOAA SIP Workmanship Quality Attribute Assessment Guidelines*.

Sample Unit Evaluation

Sample units shall be evaluated in the chilled or thawed state to assess *Workmanship Quality Attributes*.

- Each sample unit shall be assessed in its entirety for each individual *Workmanship Quality Attribute* or grouped *Workmanship Quality Attributes*.
    - For example, after assessing the sample unit for “Atypical”, return all “Atypical” fillets back to the sample unit to complete the remaining *Workmanship Quality Attribute* assessments.
        - A single fillet may have more than one *Workmanship Quality Attribute*.

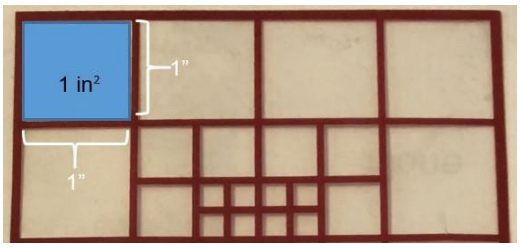
- Remember to lay the sample unit out on a tray used for each evaluation to ensure the entire sample unit is thoroughly assessed. Examine each fillet on both sides for each individual *Workmanship Quality Attribute* or grouped *Workmanship Quality Attributes*.

Workmanship Quality Attribute Assessment

- When assessing a *Workmanship Quality Attribute*, use the grid to measure applicable attribute.

Please note: The grid square will not be used to measure Atypical Fillets, Attached Collarbone, Attached Girdles, Distorted Fillets, Embedded Bones, inedible bony or cartilaginous structures, and Parasites.

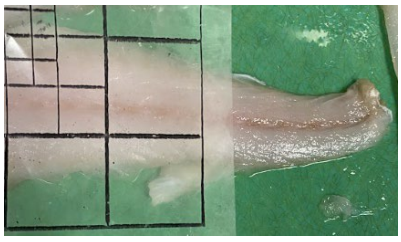
  - Use the square inch section of the grid.

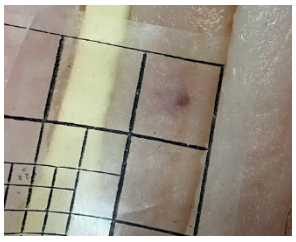


  - Place the grid square on the affected area, adjusting it so the one side is touching the attribute. Another alternative is centering the attribute within the grip square.

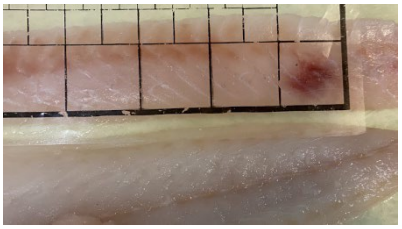
- Workmanship Quality Attributes must be large enough to touch opposite sides of the 1 in^2 grid square to be counted.

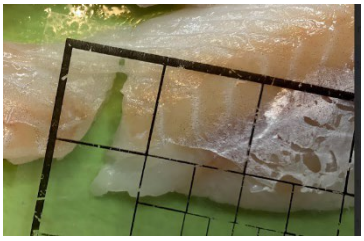
In the images below, the Workmanship Quality Attributes do not touch opposite sides of the 1 in^2 grid and therefore are not assessed as scoreable factors.



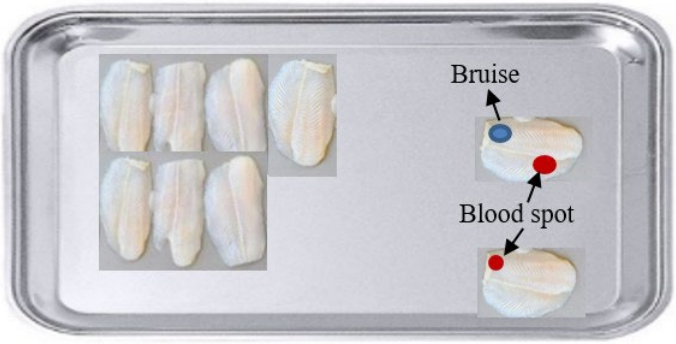


In the images below, the Workmanship Quality Attributes touch opposite sides of the 1 in^2 grid and therefore are counted in the number of fillets affected.





- Each fillet exhibiting a Workmanship Quality Attribute is only counted as one fillet.
    - For example, a fillet that has both a blood spot and bruise is counted only once for *Discolored Fillet.*



The number of *Discolored Fillet* in this sample unit is 2.

Reminder: For each individual *Workmanship Quality Attribute* or grouped *Workmanship Quality Attributes*, a sample unit may be assessed nonconformance points by determining the percent by weight or percent by count and then multiplying the numerical value by the multiplication factor.

Step 3 – **Select the Unit of Mass and Record the Sample Unit Net Weight** f**or each sample unit**.

In the example below, the Unit of Mass and Sample Unit Net Weight values have been entered for all six (6) sample units.

Chilled, Frozen Unglazed, Frozen Deglazed, or Thawed State													
Sample Unit Number		1		2		3		4		5		6	
Sample Unit Net Weight	oz.	31.45		31.00		33.28		32.48		32.00		34.04	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Unusable Fish Material	Ounces												
	%												

Step 4 – Record the Unusable Material.

1. Weigh and record the ***Unusable Fish Material*** in **Ounces**. Record 0.00 when unusable material is not present.

In the example below, for Sample Unit #1, the *Unusable Fish Material* is **0.02** ounces; for Sample Unit #2, the *Unusable Fish Material* is **0.00** ounces.

NOAA SIP Workmanship Quality Assessment Results												
Chilled, Frozen Unglazed, Frozen Deglazed, or Thawed State												
Sample Unit Number		1		2		3		4		5		6
Sample Unit Net Weight	oz.	31.45		31.00		33.28		32.48		32.00		34.04
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Unusable Fish Material	Ounces	0.02		0.00		0.10		0.05		0.02		0.02	
	%												

2. Calculate the **%** of Unusable Fish Material and the Pts. (nonconformance points).

In the example below, for Sample Unit #1, the *%* is **0.06** and the Pts. is **0.24**; for Sample Unit #2, the *%* is **0.00** and the Pts. is **0.00**.

NOAA SIP Workmanship Quality Assessment Results												
Chilled, Frozen Unglazed, Frozen Deglazed, or Thawed State												
Sample Unit Number		1		2		3		4		5		6
Sample Unit Net Weight	oz.	31.45		31.00		33.28		32.48		32.00		34.04
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Unusable Fish Material	Ounces	0.02		0.00		0.10		0.05		0.02		0.02	
	%	0.06	0.24	0.00	0.00	0.30	1.20	0.15	0.60	0.06	0.24	0.06	0.24

Step 5 – **Count and Record the Number of Fillets**.

In the example below, for Sample Unit #1, the *Number of Whole Fillets* is **8**.

Chilled or Thawed State							
Number of Whole Fillets	Number	8	8	9	8	11	8

Back to top

Step 6 – Calculate the Workmanship Quality Attribute

All *Workmanship Quality Attribute* assessments are performed identically as follows:

1. Count the number of nonconforming fillets for each workmanship attribute.
2. Record the number of nonconforming fillets on the Supplemental Worksheet.
3. Calculate and record the **% by count** and assessed **points** on the Supplemental Worksheet.

Since all of the *Workmanship Quality Attributes* are assessed identically, we will provide one example using the attribute

Damaged Fillets.

Please note: each workmanship quality attribute is assigned a specific multiplication factor based on severity. Assessments of the following Workmanship Quality Attributes must be performed in the *Chilled* or *Thawed* state:

- Atypical Fillets
- Damaged Fillets
- Dehydrated Fillets
- Discolored Fillets
- Improperly Cleaned Fillets
- Improperly Cut and/or Trimmed Fillets

In the example below for Sample Unit #1, the number of Damaged Fillets was **1**, the **%** was **12.50** of affected fillets and the nonconformance points was **10.00**.

Chilled or Thawed State													
Number of Whole Fillets	Number	8		8		9		8		11		8	
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Atypical Fillets	Number												
	%												
Damaged Fillets	Number	1	10.00	1	10.00								
	%	12.50		12.50									
Dehydrated Fillets	Number												
	%												
Discolored Fillets	Number												
	%												
Improperly Cleaned Fillets	Number			1	6.25	1	5.56	2	25.00			1	6.25
	%			12.50		11.11		12.50				12.50	
Improperly Cut and/or Trimmed Fillets	Number							3	10.13	1	2.45	2	6.75
	%							37.50		9.09		25.00	

Step 7 – Record Remarks.

Document comments and/or observations while assessing Workmanship Quality Attributes.

In the example below, there were no comments or observations noted after completing the workmanship quality assessment.

Improperly Cut and/or Trimmed Fillets	Number							3	10.13	1	2.45	2	6.75
	%							37.50		9.09		25.00	
Remarks													
No comments.													

Complete NOAA FORM 89-821 SCORESHEET FOR FISH FILLETS continue.

Step 8 – Record WORKMANSHIP QUALITY ATTRIBUTES.

Instructions:

1. Transfer the **POINTS** assigned to each attribute in the sample unit from the NOAA SIP Supplemental Worksheet to the NOAA FORM 89-821.

In the example below, the Workmanship Quality Attributes **Points** were recorded for each sample unit.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
UNUSABLE MATERIAL	0.24	0.00	1.20	0.60	0.24	0.24								
WORKMANSHIP QUALITY ATTRIBUTES	**CHILLED OR THAWED STATE**													
ATYPICAL FILLETS														
DAMAGED FILLETS	10.00	10.00												
DEHYDRATED FILLETS														
DISCOLORED FILLETS														
IMPROPERLY CLEANED FILLETS		6.25	5.56	12.50		6.25								
IMPROPERLY CUT AND/OR TRIMMED FILLETS				10.13	2.45	6.75								
TOTAL POINTS														
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE														

2. Calculate the **TOTAL POINTS** for each sample unit.

In the example below, the Total Points for Sample Number 1 was **10.24;** Sample Number 2 was **16.25**; Sample Number 3 was **6.76**; Sample Number 4 was **23.23;** Sample Number 5 was **2.69**; and, Sample Number 6 was **13.24**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
UNUSABLE MATERIAL	0.24	0.00	1.20	0.60	0.24	0.24								
WORKMANSHIP QUALITY ATTRIBUTES	**CHILLED OR THAWED STATE**													
ATYPICAL FILLETS														
DAMAGED FILLETS	10.00	10.00												
DEHYDRATED FILLETS														
DISCOLORED FILLETS														
IMPROPERLY CLEANED FILLETS		6.25	5.56	12.50		6.25								
IMPROPERLY CUT AND/OR TRIMMED FILLETS				10.13	2.45	6.75								
TOTAL POINTS	10.24	16.25	6.76	23.23	2.69	13.24								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE														

3. Record WORKMANSHIP QUALITY ASSESSMENT for each sample unit.

In the example below, the Workmanship Quality Assessment for Sample Number 1 was **High;** Sample Number 2 was **High**; Sample Number 3 was **High**; Sample Number 4 was **Medium;** Sample Number 5 was **High**; and, Sample Number 6 was **High**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
UNUSABLE MATERIAL	0.24	0.00	1.20	0.60	0.24	0.24								
WORKMANSHIP QUALITY ATTRIBUTES	**CHILLED OR THAWED STATE**													
ATYPICAL FILLETS														
DAMAGED FILLETS	10.00	10.00												
DEHYDRATED FILLETS														
DISCOLORED FILLETS														
IMPROPERLY CLEANED FILLETS		6.25	5.56	12.50		6.25								
IMPROPERLY CUT AND/OR TRIMMED FILLETS				10.13	2.45	6.75								
TOTAL POINTS	10.24	16.25	6.76	23.23	2.69	13.24								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	High	Medium	High	High								

4. Record Workmanship Quality Lot Determination.

In the example below, the Workmanship Quality Lot Determination was **High**.

WORKMANSHIP QUALITY ATTRIBUTES	CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
UNUSABLE MATERIAL	0.24	0.00	1.20	0.60	0.24	0.24								
WORKMANSHIP QUALITY ATTRIBUTES	**CHILLED OR THAWED STATE**													
ATYPICAL FILLETS														
DAMAGED FILLETS	10.00	10.00												
DEHYDRATED FILLETS														
DISCOLORED FILLETS														
IMPROPERLY CLEANED FILLETS		6.25	5.56	12.50		6.25								
IMPROPERLY CUT AND/OR TRIMMED FILLETS				10.13	2.45	6.75								
TOTAL POINTS	10.24	16.25	6.76	23.23	2.69	13.24								
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	High	Medium	High	High								**High**

Step 9 – Record SENSORY QUALITY ATTRIBUTES.

Follow the procedures in the *NOAA SIP Sensory Quality Attributes Assessment Guidelines for Fish and Fishery Products to* evaluate and identify sensory attributes.

Instructions:

1. Assess and Classify Sample Unit Odor/Flavor.
2. Record Sensory Compliance Results for each sample unit.

In the example below, the Odor/Flavor assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE														
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE														

3. Assess and Classify Sample Unit Texture.
4. Record Sensory Compliance Results for each sample unit.

In the example below, the Texture assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE														

5. Record the Sensory Quality Assessment for each sample unit.

In the example below, the Sensory Quality Assessment for each of the six sample units was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								

6. Record the Sensory Quality Lot Determination.

In the example below, the Sensory Quality Lot Determination was **High**.

SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								High

Step 10 – Record LOT QUALITY DETERMINATION.

The lowest determination assigned to either Workmanship Quality Lot Determination or Sensory Quality Lot Determination is the Lot Quality Determination.

In the example below, the Lot Quality Determination was **High**.

WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE	High	High	High	Medium	High	High								High
SENSORY QUALITY ATTRIBUTES	COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								
TEXTURE HIGH OR ACCEPTABLE	High	High	High	High	High	High								
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE	High	High	High	High	High	High								High
LOT QUALITY DETERMINATION														High

Section 4 – Finalized Inspection Documentation

Step 1 – Record Comments and Observations.

When relevant, use the Comments and Observations section in the score sheet to provide additional contextual detail for inspection results.
Instructions:

1. Record comments and observations including a description of the conditions that may have rendered a lot nonconforming.
2. When a lot is rendered *not meet Eligibility Requirements for US Grade A Shield and/or USDC PUFI Mark* due to the presence of acceptable sensory assessments, use the "Acceptable" descriptors listed on the *NOAA SIP Odor/Flavor* and *NOAA SIP Texture* guides.

In the example below, comments and observations were recorded that rendered the lot nonconforming due to acceptable odor/flavor.

REMARKS
Sample unit #3 possessed "acceptable" odor/flavor characteristics. Cardboardy odor and stale flavor detected.

Step 2 – Record Conclusion Statement.

Record the Eligibility for Use of NOAA SIP Official Insignia statement in the remarks section of NOAA FORM 89-821.

1. When a lot meets eligibility requirements or use of US Grade A Shield and USDC PUFI Marks , record the following statement:

"This lot meets Eligibility Requirements for US Grade A Shield and/or USDC PUFI Mark."

1. When a lot meets eligibility requirements for use of the USDC PUFI Mark, record the following statement: "***This lot meets Eligibility Requirements for USDC PUFI Mark.***"

2. When a lot does not meet eligibility requirements for use of US Grade A Shield and USDC PUFI Mark, record the following statement:

"This lot does not meet Eligibility Requirements for US Grade A Shield or USDC PUFI Mark."

a. When a lot is rendered *not meet Eligibility Requirements for US Grade A Shield or USDC PUFI Mark*, provide a statement explaining why the lot did not meet eligibility requirements.

Step 3 – Complete Inspection Documentation.

Instructions:

1. Review the Supplemental Worksheet and NOAA FORM 89-821 to confirm that all data has been accurately recorded.
2. Sign and date each document.

Fish Fillet Scoresheet and Supplemental Scoresheet

Please see below example scoresheets used by Seafood Inspection Program when Grading Fish Fillets.

NOAA FORM 89-821 Pres. by NOAA Inspection Manual 25 (12-91)	SCORESHEET For: FISH FILLETS - Supersedes NOAA FORM 89-851	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	PAGE OF PAGES DATE

CO. CODE OR APPLICANT	INSPECTOR'S NO.	INSPECTION TYPE	REF. LOT NO.	CONTAINER NUMBER	CONTAINER SIZE	CONTAINER KIND	POUNDAGE	SPECIES	ORIG. COUNTRY

PRINCIPAL TITLE OF LABEL	PACKER OR DISTRIBUTOR

ITEMS INSPECTED		SAMPLE NUMBER (INSERT AS NEEDED)													AVERAGE
CONTAINER IDENTIFICATION															
NET WEIGHT (lb. or oz.)	DECLARED														
	ACTUAL														
COUNT PER (lb. or package)	DECLARED														
	ACTUAL														
PORTION WEIGHT (oz.)	DECLARED														
	ACTUAL														
WORKMANSHIP QUALITY ATTRIBUTES		CHILLED, FROZEN UNGLAZED, FROZEN DEGLAZED, OR THAWED STATE													
		POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	POINTS	
UNUSABLE MATERIAL															
WORKMANSHIP QUALITY ATTRIBUTES		CHILLED OR THAWED STATE													
ATYPICAL FILLETS															
DAMAGED FILLETS															
DEHYDRATED FILLETS															
DISCOLORED FILLETS															
IMPROPERLY CLEANED FILLETS															
IMPROPERLY CUT AND/OR TRIMMED FILLETS															
TOTAL POINTS															
WORKMANSHIP QUALITY ASSESSMENT HIGH, MEDIUM, OR ACCEPTABLE															
SENSORY QUALITY ATTRIBUTES		COOKED, REHEATED, OR WARMED STATE													
ODOR/FLAVOR HIGH, ACCEPTABLE, OR UNACCEPTABLE															
TEXTURE HIGH OR ACCEPTABLE															
SENSORY QUALITY ASSESSMENT HIGH, ACCEPTABLE, OR UNACCEPTABLE															
LOT QUALITY DETERMINATION															

REMARKS	OFFICIAL INSPECTOR SIGNATURE

Back to top

NOAA SIP Supplemental Worksheet for Fish Fillets													
Administration Information							**Product Description Information**						
Inspection Date							Product Type						
Inspection Type							Product Style						
Approved Establishment Company Name							Product Form						
Name and (Title or NOAA SIP Number)							Lot Number						
Workmanship Quality Assessment													
Chilled, Frozen Unglazed, Frozen Deglazed, or Thawed State													
Sample Unit Number													
Sample Unit Net Weight	Lb./oz.												
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Unusable Fish Material	Ounces												
	%												
Chilled or Thawed State													
Number of Whole Fillets	Number												
Workmanship Quality Attributes		**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**	**Data**	**Pts.**
Atypical Fillets	Number												
	%												
Damaged Fillets	Number												
	%												
Dehydrated Fillets	Number												
	%												
Discolored Fillets	Number												
	%												
Improperly Cleaned Fillets	Number												
	%												
Improperly Cut and/or Trimmed Fillets	Number												
	%												
Remarks													

Fish Fillet Workmanship Quality Assessment Guidelines (Rev 9/2024)

Introduction

The ***NOAA Seafood Inspection Program*** (***NOAA SIP***) ***Workmanship Quality Assessment Guidelines*** provide definitions and visual examples of *Workmanship Quality Attributes* that may be present in fish fillets.

Scope

The ***Workmanship Quality Assessment Guidelines*** apply to fish fillets covered by *US Grade Standard for Fish Fillets* published by NOAA SIP.

1. **Unusable Material** - any material that derived from the fillets including, but not limited to, detached bones, detached fins, detached girdles, detached parasites, detached scales, and detached skins, and loose fish flesh particles weighing less than 1 ounce.

2. **Atypical Fillets** - pronounced deviations from the normal appearance of freshly caught, healthy finfish including, but not limited to abnormal conditions and diseased conditions.

   a. Abnormal appearance: unusual flesh conditions such as (1) chalky, dry, fiber-less, granular appearance; (2) jellied, gelatinous, glossy, slimy, translucent appearance; (3) milky white, mushy, pasty or fluidized appearance, and (4) excessive gaping or excessive separation of the fish flesh that affects the usability of the fillet.

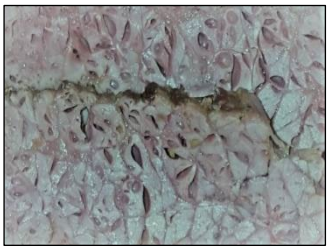


   b. Diseased appearance: unusual flesh and/or skin conditions, not zoonotic in origin, affecting appearance and/or texture, separate and distinct from discoloration workmanship quality attributes.

3. **Damaged Fillets** - crushed or mangled which materially affects its usability, including but not limited to, distortion, honeycombing, and holes.

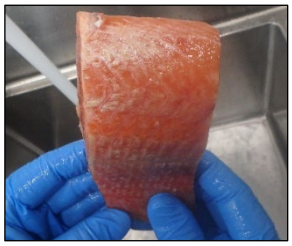
   a. Distortion: visible appearance of flesh being distorted or twisted.

   b. Honeycombing: visible appearance of discrete holes or openings of varying size on the flesh's surface, that results in an overall sponge-like or honeycomb appearance.



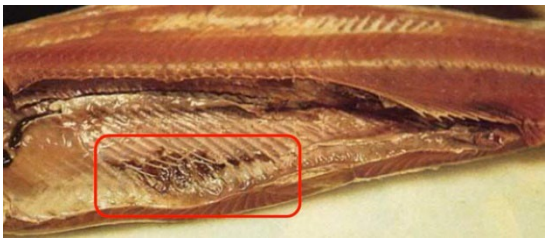
   c. Holes: perforations in the flesh.

4. **Dehydrated Fillets** - noticeable dry, white fibrous appearances on the surface of the flesh that is present in the frozen state and present in the thawed state.

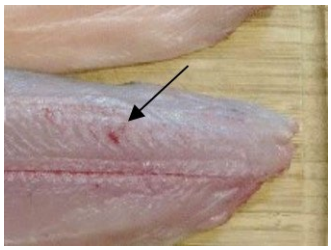



5. **Discolored Fillets** - discolored flesh or skin including, but not limited to: belly burn, blood spots, bruises, and discolored fish flesh or surface fat.

   a. Belly burn: yellowish to brownish spot(s) in the flesh of the belly cavity.

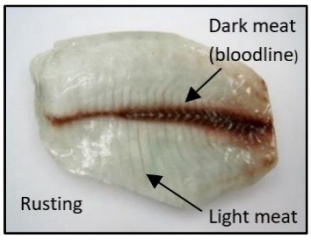
   b. Blood spots: red, brownish red or dark spot(s) in the flesh.

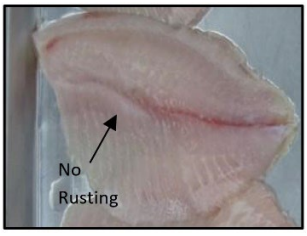


   c. Bruises: localized, darkened (reddish brown) blood-filled area(s) in the flesh.


   d. Discolored fish flesh or surface fat: which is darkened or lightened areas of the light meat or increased yellowing or rusting of the dark meat surface fat.



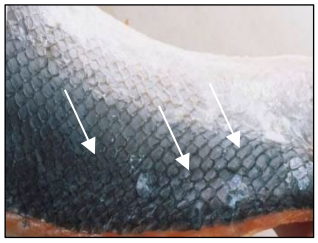




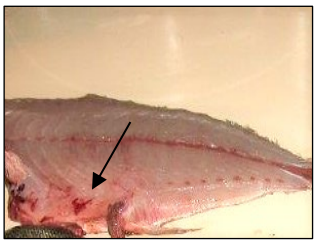
6. **Improperly Cleaned Fillets** - inadequate removal of undesirable fish material during the cleaning process, including but not limited to the presence of attached belly lining, attached scale(s), visceral material, and parasites (5 or more).

   a. Attached belly lining: the thin grayish to black belly membrane that lines the stomach cavity.

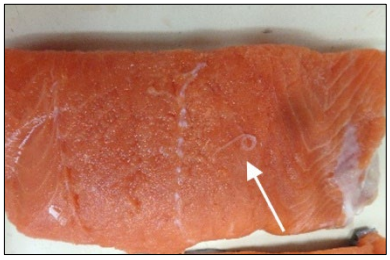
   b. Attached scale(s): the rigid plate(s) that grow out of a fish's skin to provide protection and assessed only if product form is scaleless.

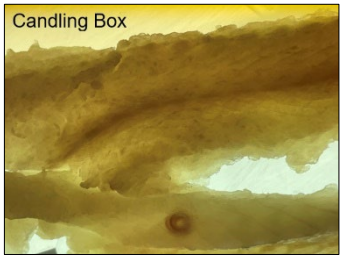


   c. Visceral material: inadequate removal of internal viscera from the cavity such as the air bladder, blood, digestive tube and its accessory glands, gonads, roe and soft internal organs.



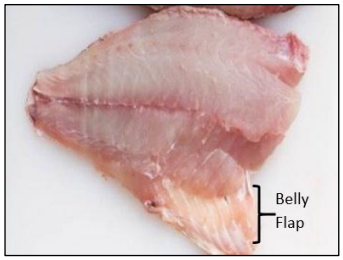
   d. Parasites: organisms present in or on the fish such as but not limited to nematodes, roundworms, cestodes, tapeworms, trematodes and flukes and are assessed only if the fillet has 5 or more visible parasites.



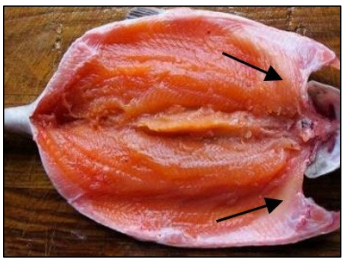


7. **Improperly Cut and/or Trimmed Fillets** - irregular, inadequate, unnecessary, or improper knife or blade cuts or trimmings present, including but not limited to attached collar bone, fin(s), girdle(s), or lace (frill); attached or detached skin; embedded bones, ragged edge and tear(s).

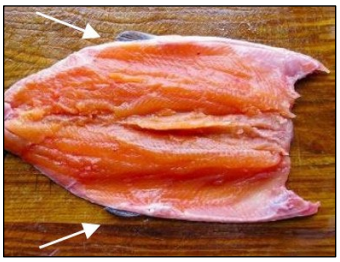
   a. Attached belly flap: the presence of a loose piece of skin and/or flesh that hangs from fish rib section during filleting and is assessed only if fillet is declared or specified as having no belly flap.



   b. Attached collarbone: the inedible curved linear bony appendage (large white, circular-shaped bone) at the anterior end of fillet.

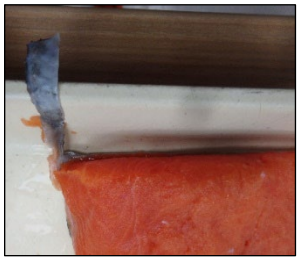


   c. Attached fin(s**)**: the presence of the organ(s) of locomotion characteristic of fish and consisting of thin tissue supported by cartilaginous or bony rays.

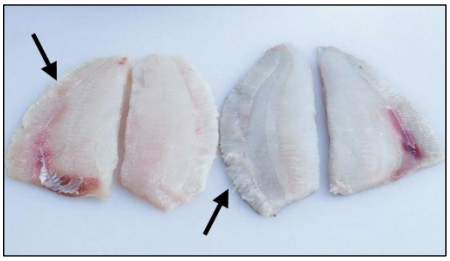


   d. Attached girdle(s): the presence of the inedible bony and cartilaginous structure(s) at the base of the pectoral and pelvic fins.

e. Attached hanging free skin: the thin layer of tissue forming the natural outer covering of the body of a fish attached to the flesh but loosely hanging.

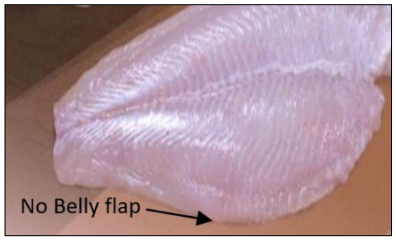


f. Attached lace (frill): the presence of the fleshy fin tissue adhering to the edge of a flatfish.



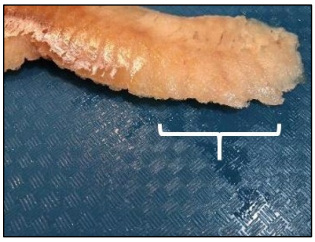
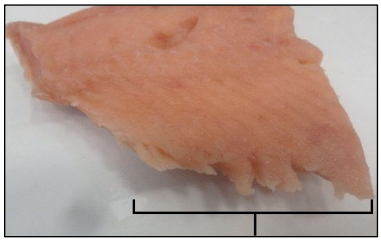
g. Skin: the thin layer of tissue forming the natural outer covering of the body of a fish.
- Attached or partially attached skin is nonconforming when the product form is skinless.
- Detached or partially detached skin is nonconforming when the product form is skin-on.

h. Detached belly flap: the absence of the loose piece of skin and/or flesh that hangs from fish rib section during filleting and is assessed only if fillet is declared or specified as having a belly flap.

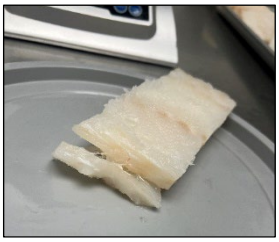


i. Bones: bones embedded in the flesh are assessed in (1) boneless and (2) practically boneless fish fillets when the fillet contains 5 or more bones.


j. Ragged edge: irregular or shredded appearance of the fillet or fillet edge.

k. Tear(s): laceration(s) in the flesh.

This concludes the Quality Assessment. Proceed to The NOAA Fisheries SIP *Sensory Quality Assessment Guidelines for Fish and Fishery Products* to determine sample unit sensory quality assessment.

Halibut Steaks

Product description.

Frozen halibut steaks are clean, wholesome units of frozen raw fish flesh with normally associated skin and bone and are 2 ounces or more in weight. Each steak has two parallel surfaces and is derived from whole or subdivided halibut slices of uniform thickness which result from sawing or cutting perpendicular to the axial length, or backbone, of a whole halibut. The steaks are prepared from either frozen or unfrozen halibut (Hippoglossus spp.) and are processed and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product.

Styles of frozen halibut steaks.

(a) *Style I, random weight pack.* The individual steaks are of random weight and neither the weight nor the range of weights are specified.

(b) *Style II, uniform weight or portion pack*. All steaks in the package or in the lot are of a specified weight or range of weights.

Grades of frozen halibut steaks.

(a) “U.S. Grade A” is the quality of frozen halibut steaks which possess good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 85 points.

(b) “U.S. Grade B” is the quality of frozen halibut stem which possess at least reasonably good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 70 points.

(c) “Substandard” is the quality of frozen halibut steaks which fail to meet the requirements of the "U.S. Grade B."

Recommended dimensions.

(a) The recommended dimensions of frozen halibut steaks are not incorporated in the grades of the finished product since dimensions, as such, are not factors of quality for the purpose of these grades. However, the degree of uniformity of thickness among units of the finished product is rated since it is a factor affecting the quality and utility of the product.

(b) It is recommended that the thickness (smallest dimension) of individually frozen halibut steaks be not less than ½ inch and not greater than inches.

Ascertaining the grade.

The grade is ascertained by observing the product in the frozen, thawed. and cooked states and is evaluated by consideration of the following.

(a) *Factors rated by score points.* The quality of the product with respect to scored factors is expressed numerically. Cumulative point deductions are assessed for variations of quality for each factor in accordance with the schedule in Table I, in the frozen, thawed, and cooked states. The total deduction is subtracted from the maximum possible score of 100 to obtain the product score.

(b) *Factors not rated by score points*. The factors of flavor and odor are evaluated organoleptically in the cooked state for both the light and dark meat (surface fat) and are defined as follows:

(1) *Good flavor and odor*. "Good flavor and odor" (essential requirement for Grade A) mean that the fish flesh has the good flavor and odor characteristics of halibut, and is free from rancidity and from off-flavors and off-odors.
(2) *Reasonably good flavor and odor*. "Reasonably good flavor and odor" (minimum requirement for Grade B) means that the fish flesh may be somewhat lacking in the good flavor and odor characteristic of halibut, is reasonably free of rancidity, and is free from objectionable off-flavors and off-odors.
(3) *Substandard flavor and odor.* "Substandard flavor and odor" (Substandard grade) means that the flavor and odor fail to meet the requirements of "reasonably good flavor and odor."

(c) *Determination of final product grade*. The final product grade is derived on the basis of both the product score as determined by the "factors rated by score points" and the grade requirements of flavor and odor as defined under "factors not rated by score points." The lower of the two determines the final grade.

Definitions and methods of analysis.

(a) “Percentage glaze” on halibut steak means the percent by weight of frozen coating adhering to the steak surfaces and includes the frost within the package. It is determined by the method described below or by methods giving equivalent results.

(1) *Equipment needed*. (i) Source of cold tap water with aerated faucet.

(ii) Balance accurate to 0.1 gm., or 0.01 ounce.
(iii) Paper towels.
(iv) Small knife.

(2) *Procedure*.

(i) Weigh package in overwrap and all its contents (A).
(ii) Remove steaks and loose frost; weigh dry packaging (B).
(iii) The difference in weight, A-B represents weight of steaks plus glaze (C)
(iv) Remove glaze from halibut steaks.
(a) Adjust tap water to a flow rate of about 3 quarts/min. through an aerated faucet.

(b) Direct 50°·to 60° F. tap water onto skin side of steak while gently feeling and rubbing cut surfaces with finger tips (if necessary, temperatures up to 80°·F. may be used but require closer control).
(c) When all glaze is removed from cut mesh surface, as evidenced by absence of slick feel to fingers, remove steak from water.
(d) Rapidly remove excess water with single paper towel before it has time to refreeze on the steak, and flick off residual skin glaze by knife or hand.
(e) Repeat steps (*b*), (*c*), and (*d*) on each steak in package or sample unit.
(f) Weigh deglazed halibut steaks (D, actual net weight of sample).
(g) (Steps (*a*) through (*f*) of this paragraph (a)(2)(ii) are completed within 3 minutes.)

(v) Calculate percentage glaze: Percentage glaze=C-D/Cx100.

(b) “Cooked state” means that the thawed product has been cooked in a suitable manner which is defined as being heated submerged in boiling water, unseasoned, and in a boilable film type pouch for 10 minutes. (Steaks over 1 inch in thickness may require 5 additional minutes for heating.)

(c) “Uniformity of thickness” means that the thickness is substantially the same for one or more steaks within a package or sample unit.

(d) Color defects:

(1) “Discoloration of drip liquor” means that the free liquid which drains from the thawed steaks is discolored with blood residue usually from the dorsal aorta of the halibut.
(2) “Discoloration of light meat” means that the normal flesh color of the main part of the halibut steak has darkened due to deteriorative influences.
(3) “Discoloration of the dark meat” means that the normal color of the surface fat shows increasing degrees of yellowing due to oxidation.
(4) “Non-uniformity of color” refers to noticeable differences in color on a single steak or between adjacent steaks in the same package.

(e) “Dehydration” refers to the appearance of a whitish area on the surface of a steak due to the removal of water or drying of the affected area.

(f) “Honeycombing” refers to the visible appearance of numerous discrete holes or openings of varying size on the steak surface.

(g) “Workmanship defects” refers to appearance defects that were not eliminated during processing and are considered either objectionable or poor commercial practice.

(h) “Texture defect” refers to an undesirable increase in toughness and/or dryness, fibrousness, and watery nature of halibut examined in the cooked state.

[42 FR 52753, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Back to top

Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified on the basis of Part 260 of this chapter.

Score sheet for frozen halibut steaks.

General
Label.....
Size and kind of container.....
Container mark or identification.....
Size of lot.....
Number of samples.....
Actual net weight (ounces).....
Number of steaks per container.....
Product style.....

Scored factors (table 1)	Deductions
Frozen: 1. Dehydration. 2. Percentage glaze 3. Uniformity of thickness 4. Uniformity of weight **Thawed:** 5. Workmanship 6. Color defects 7. Honeycombing **Cooked:** 8. Texture	
Total deductions	
Rating for scored factors (100-Total deductions)	
Unscored factors (table 1)	**Rating**
Cooked: a. Odor b. Flavor (light meat) (dark meat) Flavor and odor rating	
Final Grade	

TABLE 1 - SCHEDULE OF POINT DEDUCTIONS FOR FACTORS RATED BY SCORE POINTS[1]

FACTOR	DESCRIPTION OF QUALITY VARIATION	DEDUCT
	FROZEN	
1. Dehydration[2]	Per steak Surface area affected: Less than 1 square inch but obvious..... 1 to 2 square inches..... Above 2 square inches.....	 1 2 3
2. Percentage glaze	Over 0.0 not over 6.0 percent by weight of sample unit Over 6.0 not over 7.0 ..... Over 7.0 not over 8.0 ..... Over 8.0 not over 9.0 ..... Over 9.0	0 1 2 3 4
3. Uniformity of thickness	For each 1/16 in above 1/16 inch variation in steak thickness (maximum total deduction permitted 6 points per sample unit).	2
4. Uniformity of weight and minimum weight	Style I - Random weight. - Use either (a) or (b), whichever gives a greater deduction. a. For each steak less than 3.0 ounces in weight per sample package. b. For each 0.1 ounce below 4.0 ounces in average steak weight per sample. Style II - Uniform weight or portions. - For each full 1 percent of the steaks deviating by more than 0.6 ounce from the specified portion weight or the average of the specified portion range (per sample package).	 4 1/2 2
	THAWED	
5. Workmanship - Defects of: Cutting, collar bone, loose skin, fins, blood spots, bruises, foreign material, backbone, cartilage, sawdust[3].	Slight or moderate Excessive (For each defect, per occurrence, per sample package or per 2 pounds for packages over 2 pounds net weight).	1 2

6. Color defects:	(Per sample unit)	
Discoloration of drip liquor	Slight	1
	Moderate	2
	Excessive	3
	(Per steak)	
Discoloration of light meat[2]	Slight	1
	Moderate	2
	Excessive	3
	(Per steak)	
Discoloration of dark meat[2]	Slight	1
	Moderate	2
	Excessive	3
	(Per sample unit)	
Non-uniformity of color	Slight	1
	Moderate	2
	Excessive	3
7. Honeycombing[2]	(Per steak)	
	Surface area affected:	
	26 to 50 percent	1/2
	51 to 75 percent	1
	76 to 100 percent	2
	COOKED	
8. Texture defect[2] (tough, dry, fibrous, or watery).	(Per steak)	
	Slight	1
	Moderate	2
	Excessive	3

[1] This schedule of point deductions is based on the examination of sample units composed of: (a) An entire sample package and its contents (for retail sized packages) or (b) a representative sub-sample consisting of three or more halibut steaks taken from each sample package (for institutional sized packages), except that the entire sample package shall be examined for factor 4.

[2] Point deductions for these factors are based on a 3-steak sample unit. For samples containing other than 3 steaks per sample unit or per package, multiply the results by the correction factor 3/n where n equals the number of steaks.

[3] Sawdust is examined while the steaks are in the frozen state.

[42 FR 52753, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Back to top

Headless Dressed Whiting

Description of the product.

The product described in this part consists of clean, wholesome whiting (silver hake) *Merluccius bilineraris*, *Merluccius albidus*; completely and cleanly headed and adequately eviscerated. The fish are packaged and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product.

Grades of frozen headless dressed whiting.

(a) "U.S. Grade A" is the quality of frozen headless dressed whiting that (1) possess a good flavor and odor and that (2) for those factors that are rated in accordance with scoring system outlined in this part, have a total score of 85 to 100 points.

(b) "U.S. Grade B" is the quality of frozen headless dressed whiting that (1) possess at least reasonably good flavor and odor and that (2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) "Substandard" or "Utility" is the quality of frozen headless dressed whiting that meet the requirements of Description of the product but that otherwise fail to meet the requirements of U.S. Grade B.

Determination of the grade.

In a plant under USDC Contract Inspection the grade is determined by examining the product for factors 1 to 10 in the thawed state and factor 11 in the cooked state. For lot inspection, examination of the product for factors 1, 2 and 3 is carried out in the frozen state and 4 to 10 in the thawed state. Factor 11 is examined in the cooked state.

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100 the minimum score is 0.

(b) *Factors not rated by score points.* The factor of "flavor and odor" is evaluated organoleptically by smelling and tasting after the product has been cooked in accordance with Definitions and methods of analysis.

(1) Good flavor and odor (essential requirements for a U.S. Grade A product) means that the cooked product has the typical flavor and odor of the species and is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.
(2) Reasonably good flavor and odor (minimum requirements of a U.S. Grade B product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

Definitions and methods of analysis.

(a) *Selection of the sample unit.* The sample unit consists of the primary container and its entire contents. The whiting are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) *Examination of sample, frozen state.* When this product is examined under USDC Contract Inspection, the samples are examined for factors 1, 2, and 3 in Table 1 in the thawed state. When the product is lot inspected, the samples are examined for factors 1, 2, and 3 in Table 1 in the frozen state.

(1) *"Arrangement of product"* refers to the packing of the product in a symmetrical manner, bellies or backs all facing in the same direction, fish neatly dovetailed.
(2) *"Condition of the packaging material"* refers to the condition of the cardboard or other packaging material of the primary container. If the fish is allowed to stand after packing and prior to freezing moisture from the fish will soak into the packaging material and cause deterioration of that material.
(3) *"Dehydration"* refers to the presence of dehydrated (water-removed) tissue on the exposed surfaces of the whiting. Slight dehydration is surface dehydration which is not color-masking. Deep dehydration is color-masking and cannot be removed by scraping with a fingernail.

(c) *Examination of sample, thawed state*. Thawed state means the state of the product after being thawed. Thawing the sample is best accomplished by enclosing the sample in a film bag and immersing in an agitated water bath held at 68· F., ± 2· F. Allow the product to remain immersed until thawed. Alternatively, when the facilities are lacking for water thawing, the sample may be thawed by slacking it out at a temperature between 30· to 40· F. on an aluminum tray from 2 hours for a 1 ½-pound sample to 8 hours for a 10-pound sample.

(1) *"Minimum size"* refers to the size of the individual fish in the sample. Fish 2 ounces or over are considered acceptable. Smaller fish cannot be cooked uniformly with acceptable size fish. Separate the fish of unacceptable size, divide their number by the weight of the sample in pounds, and apply to Table 1. Example--four fish of unacceptable size in a 5-pound package is 4/5 = 0.8, a 10-point deduction.
(2) *"Uniformity"* From the fish remaining, select by count 10 percent (minimum of one fish) of the largest and 10 percent (minimum of one fish) of the smallest and divide the largest weight by the smallest weight to get a weight ratio.
(3) *"Heading"* refers to the condition of the fish after they have been headed. The fish should be cleanly headed behind the gills and pectoral fins. No gills, gill bones, or pectoral fins should remain after the fish have been headed.
(4) "*Evisceration"* refers to the cleaning of the belly cavities of the fish. All spawn, viscera, and belly strings should be removed.
(5) *"Scaling"* refers to the satisfactory removal of scales from the fish.
(6) *"Color of the cut surfaces"* refers to the color of the cut surfaces of the fish after heading and other processing.
(7) *"Bruises and broken or split skin"* refers to bruises over one-half square inch in area and splits or breaks in the skin more than one-half inch in length which are not part of the processing.

(d) *Examination of sample, cooked state.* Cooked state means the state of the sample after being cooked. Cooking the sample is best accomplished by inserting the sample into a film type bag and submerging it into boiling water for from 18-20 minutes. A minimum of three fish per sample unit shall be cooked.

(1) *"Texture defects"* refers to the absence of normal textural properties of the cooked fish flesh, which are tenderness, firmness, and moistness without excess water. Texture defects are dryness, softness, toughness, and rubberyness.

(e) *General definitions*

(1) *Small* (overall assessment) refers to a condition that is noticeable but is only slightly objectionable.
(2) *Moderate* (overall assessment) refers to a condition that is distinctly noticeable but is not seriously objectionable.
(3) *Large* (overall assessment) refers to a condition which is both distinctly noticeable and seriously objectionable.

Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified in accordance with Part 260 Subpart A of this chapter, (Regulations Governing Processed Fishery Products).

TABLE 1 - SCHEDULE OF POINT DEDUCTIONS PER SAMPLE

[See footnotes at end of table.]

Factors Scored	Method of determining score	Deduct
	FROZEN STATE (LOT INSPECTION ONLY)	
1. Arrangement of product[1]	Small degree: 10 percent of fish twisted or bellies and backs not facing the same direction. Large degree: More than 10 percent of fish twisted, void present or some fish cross packed.	2 5
2. Condition of packaging (overall assessment).	Poor: Packaging material has been soaked, softened or deteriorated.	2
3. Dehydration	Small degree: Slight dehydration of the exposed surfaces. Large degree: Deep dehydration of the exposed surfaces	2 5
	THAWED STATE	
4. Minimum size: Fish 2 oz. or over are of acceptable size.	Number of fish less than 2 oz. per lb: Over 0 - not over 0.5..... Over 0.5 - not over 1.0..... Over 1.0 - not over 2.0..... Over 2.0.....	 5 10 20 30
5. Uniformity. Weight ratio of fish remaining. The 10 percent largest fish divided by the 10 percent smallest fish.	Weight ratio 10 percent smallest and 10 percent largest: Over 2.0 - not over 2.4..... Over 2.4 - not over 2.8..... Over 2.8 - not over 3.2..... Over 3.2 - not over 3.6..... Over 3.6.....	 2 5 10 20 30
6. Heading[1]	Small degree: 10 percent of fish carelessly cut. Moderate degree: Over 10 percent of fish carelessly cut.	5 15
7. Evisceration (overall assessment)	Small degree: Slight evidence of viscera Moderate degree: Moderate amounts of spawn, viscera, etc. Large degree: Large amounts of viscera, spawn, etc.	2 10 30
8. Scaling[1]	Small degree: 10 percent of fish not well scaled. Large degree: Over 10 percent of fish not well scaled.	2 5
9. Color of the exposed surfaces (overall assessment).	Small degree: Minor darkening, dulling. Large degree: Objectionably dark, brown, dull.	2 5
10. Bruises and split or broken skin	Presence of bruises and/or broken or split skin per pound: Over 0 - not over 0.5 Over 0.5 - not over 1.0 Over 1.0 - not over 1.5 Over 1.5 - not over 2.0 Over 2.0	 1 2 4 7 10

11. Texture (overall assessment)	Small degree: Moderately dry tough, mushy, rubbery, watery, stringy. Large degree: Excessively dry, tough, mushy, rubbery, watery, stringy.	5 15

[1]10 percent of fish refers to 10 percent by count rounded to nearest whole fish.
[42 FR 52750, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Minced Fish Blocks

SOURCE: 44 FR 32368, June 6, 1979, unless otherwise noted.

Scope and product description

These standards shall apply to frozen minced fish blocks which are uniformly shaped masses of cohering minced fish flesh. A block may contain flesh from a single species or a mixture of species with or without food additives. The minced flesh consists entirely of mechanically separated fish flesh processed and maintained in accordance with good commercial practice. This minced flesh is made entirely from species which are known to be safe and suitable for human consumption.

Product forms

(a) *Types.*
- (1) Unmodified-No food additives used.
  - (i) Single species.
  - (ii) Mixed species.

- (2) Modified-Contains food additives (see Sec 264.155).
  - (i) Single species.
  - (ii) Mixed species.

(b) *Color classifications*.
- (1) White.
- (2) Light.
- (3) Dark.

See **Appendix 1. Definition and method of measuring color classifications** for definition and method of measurement.

(c) *Texture*.
- (1) Coarse--Flesh has a fibrous consistency.
- (2) Fine--Flesh has a partially fibrous consistency because it is a mixture of small fibers and paste.
- (3) Paste/Puree--Flesh has no fibrous consistency.

Back to top

Grades-quality factors

(a) *U.S. Grade A.* Minced fish blocks shall:
(1) Possess good flavor and odor, and
(2) Comply with the limits of defects for U.S. Grade A quality in accordance with Determination of Grade.

(b) *U.S. Grade B.* Minced fish blocks shall:
(1) Possess reasonably good flavor and odor, and
(2) Comply with the limits of defects for U.S. Grade B quality in accordance with Determination of Grade.

(c) *U.S. Grade C.* Minced fish blocks shall:

(1) Possess minimally acceptable flavor and odor with no objectionable off-flavors or off-odors, and
(2) Comply with the limits of defects for U.S. Grade C quality in accordance with Determination of Grade.

Determination of grade

(a) *Procedures for grade determination*. The grade shall be determined by:
(1) Sampling in accordance with the sampling plan described in paragraph (b) of this section;
(2) evaluating odor and flavor in accordance with paragraph (c) of this section;
(3) examining for defects in accordance with paragraphs (d) and (e) of this section: and (4) using the results to assign a grade as described in paragraph (f) of this section.

(b) *Sampling*. The sampling rate of specific lots for all inspections shall be in accordance with the sampling plans contained in Part 260 of this chapter. For examination in the frozen state, an entire block shall be used as a sample unit. For examination in the thawed state, a subsample of at least 5 pounds weight shall be used.

(c) *Evaluation of flavor and odor*. Evaluation of flavor and odor shall take place after the sample has been cooked by any of the procedures given below. These procedures are based on heating sample to internal temperature of at least 160· F (70· C), but without overcooking. Cooking times vary according to size of sample and the equipment used. If determining cooking time, cook extra sample using a temperature measuring device to determine internal temperature.

(1) Bake procedure--Wrap a minimum of 12 ounces of sample in aluminum foil and distribute evenly on flat cookie sheet or shallow flat pan. Heat in ventilated oven, preheated to 400· F (204· C), until internal temperature reaches at least 160· F (70· C).
(2) Steam procedure--Wrap a minimum of 12 ounces of sample in aluminum foil and place on wire rack suspended over boiling water in a covered container. Heat until internal temperature of sample reaches at least 160· F (70· C).

(d) *Examination for physical defects.* The sample unit will be examined for defects using the list of defects definitions in Determination of Grade (e), and the defects noted and categorized as minor, major, and serious, in accordance with Table 1 of this part.

(e) *Definitions of defects-*

(1) *Deteriorative color* refers to discoloration from the normal characteristics of the material used. Deterioration can be due to yellowing of fatty material, to browning of blood pigments, or other changes.

(i) Slight deteriorative discoloration--refers to a color defect that is slightly noticeable but does not seriously affect the appearance, desirability, or eating quality of the product.

(ii) Moderate deteriorative discoloration--refers to a color defect that is conspicuously noticeable but does not seriously affect the appearance, desirability, or eating quality of the product.

(iii) Excessive deteriorative discoloration--refers to a defect that is conspicuously noticeable and that seriously affects the appearance, desirability, or eating quality of the product.

(2) *Dehydration* refers to a loss of moisture from the surfaces of the product during frozen storage.

(i) Slight dehydration--is surface color masking, affecting more than 5 percent of the area, which can be readily removed by scraping with a blunt instrument.

(ii) Moderate dehydration--is deep color masking penetrating the flesh, affecting less than 5 percent of the area, and requiring a knife or other sharp instrument to remove.

(iii) Excessive dehydration--is deep color masking penetrating the flesh, affecting more than 5 percent of the area, and requiring a knife or other sharp instruments to remove.

(3) *Uniformity of size* refers to the degree of conformity to the declared contracted dimensions of the blocks. A deviation is considered to be any deviation from the contracted length, width, or thickness; or from the average dimensions of the blocks, physically determined, if no dimensions are contracted. Only one deviation from each dimension may be assessed. Two readings for length, three readings for width, and four readings for thickness will be measured.

(i) Slight--two or more deviations from declared or average length, width, and thickness up to ± ⅛ inch.

(ii) Moderate--two or more deviations from declared or average length, width, and thickness from ± ⅛ inch to ± ⅜ inch.

(iii) Excessive--two or more deviations from declared or average length, width, and thickness over ± ⅜ inch.

(4) *Uniformity of weight* refers to the degree of conformity to the declared weight. Only underweight deviations are assessed.

(i) Slight--any minus deviation of not more than 2 ounces.

(ii) Excessive--any minus deviation over 2 ounces.

(5) *Angles.* An acceptable edge angle is an angle formed by two adjoining surfaces of the fish block whose apex is within ⅜ inch of a carpenter's square placed along the surfaces of the block. For each edge angle, three readings will be made and at least two readings must be acceptable for the whole edge angle to be acceptable. An acceptable corner angle is an angle formed by 3 adjoining surfaces whose apex is within ⅜ inch of the apex of a carpenter's square placed on the edge surfaces. Any edge or corner angle which fails to meet these measurements is unacceptable.

(i) Slight--two unacceptable angles.
(ii) Moderate--three unacceptable angles.
(iii) Excessive--four or more unacceptable angles.

(6) *Improper fill* refers to surface and internal air or ice voids, ragged edges, or damage. Improper fill is measured as the minimum number of 1-ounce units that would be adversely affected when the block is cut. For this purpose, the dimensions of a 1-ounce unit are 4 x 1 x ⅝ inch.

(i) Slight--1 to 3 units adversely affected.
(ii) Excessive--over 3 units adversely affected.

(7) *Blemishes* refer to pieces of skin, scales, blood spots, nape (belly) membranes (regardless of color), or other harmless extraneous material. One instance means that the area occupied by a blemish or blemishes is equal to a 1/4 inch square. Instances are prorated on a per pound basis.

(i) Slight--5 to 15 instances per pound.
(ii) Moderate--more than 15 but less than 30 instances per pound.
(iii) Excessive--30 or more instances per pound.

(8) *Bones* refer to any objectionable bone or piece of bone that is ¼ inch or longer and is sharp and rigid. Perceptible bones shall also be checked by their grittiness during the normal evaluation of the texture of the cooked product (10). Bones are prorated on a five pound sample unit basis.

(i) Slight--1 to 2 bones per five pound sample unit.
(ii) Moderate--3 to 4 bones per five pound sample unit.
(iii) Excessive--over 4 bones, but not to exceed 10 bones, per five pound sample unit.

(9) *Flavor and odor* are evaluated organoleptically by smelling and tasting the product after it has been cooked in accordance with Determination of Grade (c).

(i) Good flavor and odor (essential requirements for a Grade A product) means that the cooked product has the flavor and odor characteristic of the indicated species of fish and is free from staleness, bitterness, rancidity, and off-flavors and off-odors of any kind.
(ii) Reasonably good flavor and odor (minimum requirements of Grade B product) means that the cooked product is moderately absent of flavor and odor characteristic of the indicated species. The product is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.

(iii) Minimal acceptable flavor and odor (minimum requirements of a Grade C product) means that the cooked product has moderate storage induced flavor and odor, but is free from any objectionable off-flavors and off-odors that may be indicative of spoilage or decomposition.

(10) *Texture defects* are judged on a sample of the cooked fish.

(i) Slight--flesh is fairly firm, only slightly spongy or rubbery. It is not mushy. There is no grittiness due to bone fragments.
(ii) Moderate--flesh is mildly spongy or rubbery. Slight grittiness may be present due to bone fragments.
(iii) Excessive--flesh is definitely spongy, rubbery, very dry, or very mushy. Moderate grittiness may be present due to bone fragments.

(f) *Grade assignment*. The sample unit shall be assigned the grade into which it falls in accordance with the limits for defects, summarized as follows:

Flavor and odor		**Maximum number of physical defects permitted**		
		Minor	Major	Serious
Grade A	Good	3	0	0
Grade B	Reasonably good	5	1	0
Grade C	Minimually acceptable	7	3	1

Each lot of minced blocks shall be assigned that grade which corresponds to the acceptance number for deviants prescribed in Tables II, V, or VI of 50 CFR 260.61.

Additives

Minced fish blocks may be modified with food additives as necessary to stabilize product quality in accordance with the requirements of the regulations contained in 21 CFR Part 171.

Hygiene

The fish material shall be processed and maintained in accordance with the requirements of 50 CFR §§ 260.98 to 260.104 and the requirements of good manufacturing practice contained in 21 CFR Part 110.

Appendix 1. Definition and method of measuring color classifications

Appendix 1. Definition and Procedure of measuring color classifications cited in Sec 264.152(b). This appendix is intended for laboratory use to classify color when a field procedure is questioned.

Introduction. The procedure described below is to be followed when a photoelectric or visual reflecto-meter is used. The light source and filters for a photoelectric or visual reflectometer are designed to view a sample primarily in the red region of the spectrum, at or near 640 nanometers. The geometry of its illumination and observation conditions provide directions approximately 45 degrees and 0 degrees from a common perpendicular. The viewing area is, preferably, approximately six square inches or 39 square centimeters. Reflectometers having much smaller viewing areas may be used if enough measurements are made on different areas of the sample to describe its average reflectance accurately. The receptor characteristics provide reflectance measurements that are accurate to within 1 percent of full-scale reading using Munsell neutral value standards as described below.

This description of a reflectometer is intended to avoid undue restrictions to equipment provided by one, or a very few, manufacturers. In the majority of situations, a variety of reflectometers will be suitable for color classification of samples from minced fish blocks. In the event of a borderline sample whose color classification is disputed, the sample is measured again using a different, more accurate, reflectometer. For example, if a visual reflectometer had been used to classify a disputed sample, a more accurate photoelectric reflectometer should be used for the remeasurement.

Sample preparation. The color of the sample must represent the average color of the block when it is cut from that block. At least one of its sides must be large enough and flat enough to completely cover the reflectometer's viewing area. The sample must be cooked from the frozen state by the bake procedure or, if previously coated with batter and breading, by the deep fat frying procedure, 18.001 in “Official Methods of Analysis” 2nd supplement to the 12th edition, of the Association of Official Analytical Chemists. If the sample is covered with batter and breading for cooking, this cover should be removed with a sharp serrated knife so that the viewing area surface remains flat. The cooked sample must also be thick enough to prevent transmission of external, ambient light into the viewing area of the reflectometer.

Measurement of color. The reflectometer itself is described above at “Introduction.” It may be calibrated and used with neutral value standards furnished by the manufacturer of a reflectometer or with Munsell matte-finish neutral value standards. When other standards are used, they must have been calibrated against Munsell matte-finish neutral value standards using the same reflectometer. All standards must be large enough and thick enough to cover the reflectometer’s viewing area and prevent transmission of external ambient light into this viewing area. Munsell neutral value standards are based on the Munsell notation system as defined in terms of the CIE (International Commission on Illumination) standard observer and coordinate system for color specification. Chip or swatch samples of Munsell standards may be obtained from Munsell Color, Inc., Baltimore, Md. 21218, or made as given by the relationship between Munsell value and luminous reflectance derived by a subcommittee of the Optical Society of America and Published in the “Journal of the Optical Society of America,” volume 33, page 406 (1943). This relationship is based on the equivalence in luminous reflectance of light of 555 nanometer wave length to a given percent of the luminous reflectance of magnesium oxide. For the Munsell values used in this section, this relationship has been extracted from page 406 of this reference and is given in the following table, where “N” is the Munsell value and “Yv” is the equivalent luminous reflectance of the stated percent of magnesium oxide:

Back to top

N	Yv
N2.00	3.13
N6.00	30.05
N6.25	33.04
N6.50	36.20
N7.00	43.06
N7.25	46.77
N7.50	50.68
N9.00	78.66

Definition of "white" samples. Calibrate the reflectometer to 0-percent reflectance using a N2.0 standard, then to 90 percent using a N9.0 standard. Place a sample on the viewing area and measure its reflectance. Samples from "white" blocks have a relative reflectance greater than a N7.25 standard; but if a particular sample has a relative reflectance between N7.0 and N7.5 standards, its reflectance is measured again using an expanded scale before defining it as "white." Recalibrate the reflectometer using a N7.0 standard to set 0-percent reflectance and a N7.5 standard to set 100-percent reflectance on its scale. With these calibration settings, a "white" sample is defined as having a greater relative reflectance than a N7.25 standard.

Definition of "dark" samples. Calibrate the reflectometer to a 0-percent reflectance using a N2.0 standard, then to 90 percent reflectance using a N9.0 standard. Place a sample on the viewing area and measure its reflectance. Samples from "dark" blocks have a relative reflectance less than a N6.25 standard; but if a particular sample has a relative reflectance between N6.0 and N6.5 standards, its reflectance is measured again using an expanded scale before defining it as "dark." Recalibrate the reflectometer using a N6.0 standard to set 0-percent reflectance and a N6.5 standard to set 100-percent reflectance on its scale. With these calibration settings, a "dark" sample is defined as having a lower relative reflectance than a N6.25 standard.

Definition of "light" samples. If a sample does not satisfy the criteria given above for "white" or "dark" samples, it is classified as "light.'

TABLE 1

Physical Defects		**Categories**		
Types	Degrees	Minor	Major	Serious
Frozen State:				
Deteriorative color	Slight	101	---	---
	Moderate	---	201	---
	Excessive	---	---	301
Dehydration	Slight	102	---	---
	Moderate	---	202	---
	Excessive	---	---	302
Uniformity of size	Slight	103	---	---
	Moderate	---	203	---
	Excessive	---	---	303
Uniformity of weight	Slight	104	---	---
	Excessive	---	---	304
Unacceptable angles	Slight	105	---	---
	Moderate	---	205	---
	Excessive	---	---	305

Improper fill	Slight Excessive	106 ---	--- ---	--- 306
Thawed State: Blemishes	 Slight Moderate Excessive	 107 --- ---	 --- --- 207	 --- --- 307
Bones	Slight Moderate Excessive	108 --- ---	--- 208 ---	--- 308 ---
Cooked State: Texture	 Slight Moderate Excessive	 109 --- ---	 --- 209 ---	 --- --- 309

NOTE: The code numbers shown in the above Table are for identification of defects for recording purposes only. They are keyed to the nature and severity of the defect. They are not scores.

[44 FR 32368, June 6, 1979, as amended at 51 FR 34991, Oct. 1, 1986]

Back to top

Raw Breaded Fish Portions

Description of the product

Frozen raw breaded portions are clean, wholesome, uniformly shaped, unglazed masses of cohering pieces (not ground) of fish flesh coated with breading. The portions are cut from frozen fish blocks; are coated with a suitable, wholesome batter and breading; and are packaged and frozen in accordance with good commercial practice. They are maintained at temperatures necessary for the preservation of the product. Frozen raw breaded fish portions weigh more than 1½ ounces, and are at least ⅜-inch thick. Frozen raw breaded fish portions contain not less than 75 percent, by weight, of fish flesh. All portions in an individual package are prepared from the flesh of one species of fish.

Styles

(a) *Style I-Skinless portions.* Portions prepared from fish blocks which have been made with skinless fillets.

(b) *Style II -Skin-on-portions*. Portions prepared from fish blocks which have been made with demonstrably acceptable skin-on fillets.

Composition of the product

(a) Frozen raw breaded fish portions shall contain 75 percent by weight of fish flesh determined by the official end-product method as set forth in Definitions (f). Fish flesh content may be determined by the on-line method as set forth in Definitions (g): *Provided*, That the results are consistent with the fish flesh content requirement of 75 percent by weight, when verified by the official end-product method.

(b) Production methods employed in official establishments shall be kept relatively constant for each production lot so as to minimize variation in any factors which may affect the relative fish flesh content.

Grades

(a) "U.S. Grade A" is the quality of frozen raw breaded fish portions that:

(1) Possess good flavor and odor and
(2) rate a told score of not less than 85 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(b) "U.S. Grade B" is the quality of frozen raw breaded fish portions that:

(1) Possess at least reasonably good flavor and odor and
(2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) "Substandard" is the quality of frozen raw breaded portions that meet the requirements of Description of Product, but otherwise fail to meet the requirements of "U.S. Grade B".

Labeling requirements for styles of frozen raw breaded fish portions

Section 260.86 (a), (b), and (c) of Part 260 states the requirements for the use of approved grade marks, inspection marks and combined grade and inspection marks on processed fishery products. When an approved inspection mark is used on Style II (Styles) of frozen raw breaded fish portions, that style shall be conspicuously revealed on the label as having been made from "skin-on-fillets".

TABLE 1 -SCHEDULE OF POINT DEDUCTIONS PER SAMPLE UNIT OF 10 PORTIONS

Factors Scored	Method of determining score	Deduct
	Frozen State	
1. Condition of package	Small degree: Moderate loose breading and/or moderate frost Large degree: Excessive loose breading and/or excessive amount frost	3 6
2. Ease of separation	Minor: Hand separated with difficulty. Each affected Major: Separated only by knife or other instrument. Each affected	1 2
3. Broken portion	Break or cut greater than 1/2 length width. Each affected	10
4. Damaged portion	Mashed, mechanically and/or physically injured, misshaped or mutilated[1]	

	Minor: 1 to 5 instances. Each affected Major: Over 5 instances. Each affected	2 4
	Uniformity	
5. Size	Deviation in length or width between the 2 largest and 2 smallest portion is: Up to 1/4 inch Over 1/4 inch and up to 1/2 inch Over 1/2 inch	 0 3 10
6. Weight	Weight ration of 2 heaviest divided by the 2 lightest sticks: Over 1.2 but not over 1.3 Over 1.3 but not over 1.4 Over 1.4	 2 5 10
	Cooked State	
7. Distortion	Minor: Bending, shrinking, twisting (1/4 to 1/2 inch). Each affected Major: Excessive bending, shrinking, twisting (over 1/2 inch). Each affected	1 2
8. Coating defects	Bare spots, blistering, ridges, breaks, curds[1] Minor: 1 to 6 instances. Each affected Major: Over 6 instances. Each affected	 1 2
9. Blemishes	Skin (except for style II), blood spots, bruises and discolorations[1] Minor: 1 to 6 instances. Each affected Major: Over 6 instances. Each affected	 2 4
10. Bones	Portions containing bones (potentially harmful). Each affected	10
	Texture	
11. Coating	Small degree: Moderately dry, soggy, doughy or tough Large degree: Farinaceous (mealy), pasty, very tough	5 15
12. Fish Flesh	Small degree: Moderately dry, soft, mushy Large degree: Dry to point of fibrousness, very mushy tough or rubbery (skin for style II)	5 15

[1]An instance = each 1/16 square inch (1/4-inch square)

Determination of the grade

The grade is determined by examining the product in the frozen and cooked states and is evaluated in accordance with the following factors:

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total points deducted are subtracted from 100 to obtain the score. The maximum score is 100; the minimum score is 0.

(b) *Factors not rated by score points*. The factor of "flavor and odor" is evaluated organoleptically by smelling and tasting, after the product has been cooked in accordance with Definitions (c).

(1) Good flavor and odor (essential requirements for a Grade A product) means that the cooked product has the typical flavor and odor of the indicated species of fish and of the breading and is free from rancidity, bitterness, staleness, and off-flavors and off-odors of any kind.
(2) Reasonably good flavor and odor (minimum requirements of a Grade B product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

Definitions

(a) Selection of the sample unit: The sample unit shall consist of 10 frozen raw breaded fish portions taken at random from one or more packages as required. The fish portions are spread out on a flat pan or sheet and are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) Examination of sample, frozen state:

(1) "Condition of package" refers to the presence in the package of loose breading and/or loose frost.
(2) "Ease of separation" refers to the difficulty of separating the portions from each other or from the Packaging material.
(3) "Broken portion" means a portion with a break or cut equal to or greater than one-half the width or length of the portion.
(4) "Damaged portion" means a portion that has been mashed, physically or mechanically injured. misshaped, or mutilated to the extent that its appearance is materially affected. The amount of damage is measured by using a grid composed of squares ¼inch x ¼-inch (that is, squares with an area of 1/16 square inch each) to measure the area of the portion affected. No deductions are made for damage of less than 1/16 square inch.
(5) "Uniformity of size" refers to the degree of uniformity in length and width of the frozen portions. Deviations are measured from the combined lengths of the two longest minus the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest portions in the sample. Deductions are not made for overall deviations in length or width up to ¼ inch.
(6) "Uniformity of weight" refers to, the degree of uniformity of the weights of the portions. Uniformity is measured by the combined weight of the two heaviest portions divided by the combined weight of the two lightest portions in the sample. No deductions are made for weight ratios less than 1.2.

(c)(1) Cooked state means the state of the product after being cooked in accordance with the instructions accompanying the product. If, however, specific instructions are lacking, the product being inspected is cooked as follows:

(2) Transfer the product, while still frozen, into a wire mesh fry basket large enough to hold the fish portions in a single layer and cook by immersing them 3-5 minutes in liquid or hydrogenated cooking oil heated to 350 to 375°F. After cooking, allow the fish portions to drain 15 seconds and place them on a paper napkin or towel to absorb excess oil.

(d) Examination of sample, cooked state:

(1) “Distortion” refers to the degree of bending of the long axis of the portion. Distortion is measured as the greatest deviation from the long axis. Deductions are not made for deviations of less than ¼ inch.
(2) “Coating defects” refers to breaks, lumps, ridges, depressions, blisters or swells and curds in the coating of the cooked product. Breaks in the coating are objectionable bare spots through which the fish flesh is plainly visible. Lumps are objectionable outcroppings of breading on the portion surface. Ridges are projections of excess breading at the edges of the portions. Depressions are objectionable visible voids or shallow areas that are lightly covered by breading. Blisters are measured by the swelling or exposed area in the coating resulting from the bursting or breaking of the coating. Curd refers to crater-like holes in the breading filled with coagulated white or creamy albumin. Instances of these defects are measured by a plastic grid marked off in ¼ -inch squares (1/16 square inch). Each square is counted as 1 whether it is full or fractional.
(3) “Blemishes” refers to skin “except for Style II), blood spots or bruises, objectionable dark fatty flesh, or extraneous material. Instances of blemishes refers to each occurrence measured by placing a plastic grid marked off in ¼ -inch squares (1/16 square inch) over the defect area. Each square is counted as 1 whether it is full or fractional.
(4) “Bones” means the presence of potentially harmful bones in a portion. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.
(5) “Texture defects of the coating” refers to the absence of the normal textural properties of the coating which are crispness and tenderness. Defects in coating texture are dryness, sogginess. mushiness, doughyness, toughness, pastiness, as sensed by starchiness or other sticky properties felt by mouth tissues and/or mealiness.
(6) “Texture defects of the fish flesh and texture of skin in Style II” refers to the absence of the normal textural properties of the cooked fish flesh and to the absence of tenderness of the cooked skin in Style II. Normal textural properties of cooked fish flesh are tenderness, firmness, and moistness without excess water. Texture defects of the cooked flesh are dryness, mushiness, toughness, and rubberyness. Texture defects of the cooked skin in Style II are mushiness. rubberyness, toughness, and stringiness.

(e) *General definitions.*

(1) “Small” (overall assessment) refers to a condition that is noticeable but is not seriously objectionable. “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.
(2) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.
(3) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.

(f) “Minimum fish flesh content--End-product determination” refers to the minimum percent, by weight, of the average fish flesh content of three frozen raw breaded portions (sample unit for fish flesh determination), as determined by the following method:

Back to top

(1) *Equipment needed.*

(i) Water bath (for example, a 3 to 4 liter beaker).
(ii) Balance accurate to 0.1 gram.
(iii) Clip tongs of wire, plastic, or glass.
(iv) Stopwatch or regular watch readable to a second.
(v) Paper towels.
(vi) Spatula, 4-inch blade with rounded tip.
(vii) Nut pick.
(viii) Thermometer (immersion type) accurate to ± 2° F.

(2) *Procedure.*
(i) Calculate the weight of three frozen raw breaded portions by dividing the declared net weight on the label by the number of portions indicated on the label to obtain the weight of an individual portion and multiply by three. If the number of portions contained in the package is not declared on the label, the actual weight of three frozen raw breaded portions shall be used.
(ii) Using tongs, place each portion individually in the water bath maintained at 63° F. to 120° F. and allow to remain until the breading becomes soft and can easily be removed from the still frozen fish flesh (between 10 to 110 seconds for portions held in storage at O°F.).
(iii) At the end of the immersion, remove the fish portion from the water and blot the portion lightly with double thickness paper towelings. This step should be completed in no more than 7 seconds.
(iv) Scrape and remove the breading material and batter from the fish flesh with the spatula removing the softened breading material and batter from the narrow sides and ends of the portion on the initial movements, followed by removing the material from the wider flat surfaces.
(v) Residual batter and breading may remain on some portions prepared using batters that are difficult to remove after one dipping. When this occurs, redip the partially “debreaded” portion in 63· to 86· F. (room temperature) water for approximately 2 seconds. Follow step 3 toweling. and remove the softened residual batter and breading material.
(vi) Weigh all the “de-breaded” fish portions.
(vii)Calculate the percent fish flesh in the sample unit by the following formula:

Percent fish flesh=Weight of fish flesh (vi)x100/Weight of three raw breaded portions
(i) (g) “Minimum fish flesh content--On-line determination” refers to the minimum percent fish flesh, by weight, of the average weight of three groups of five portions (sample unit for fish flesh determination), as determined by the following.

(1) Equipment needed-Balance accurate to 0.1 gram.

(2) Procedure:

(i) Weigh three groups of five raw unbreaded portions from the line. These weights should be recorded and averaged (average weight of three groups of five portions) and percent fish flesh calculated immediately after the average weights are determined.

(ii) Calculate the percent fish flesh in the sample unit by using the average weight of three groups of five unbreaded portions and the declared net weight of five finished product units.

Example. The declared net weight of five 4 oz. finished product units would be 20 ounces or 565 grams. The average weight of three groups of five unbreaded portions would be 13 ounces or 424 gram. The percent fish flesh would be 75.

Percent fish flesh=Weight of fish flesh [sample unit (i)] x 100 /Declared net weight of raw breaded portions x 5(ii)

(iii) Frequency of on-line fish flesh content determination shall be a minimum of three determinations of fish flesh content for small production runs or lots, i.e., 3 x (three groups of five unbreaded portions). For larger production runs or lots, a minimum of one determination i.e., 1 x (three groups of five unbreaded portions), shall be made for every hour of production of product units of the same weight.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1. 1986]

Use of alternate methods of fish flesh determination

(a) The end-product method in Definitions (f) for determining fish flesh content shall be used for lot and appeal imperfections and may be used for verification inspection.

(b) The on-line method in Definitions (g) for determining fish flesh content may be used during processing operations.

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260. Subpart A of this chapter (Regulations Governing Processed Fishery Products), except that a sample unit shall consist of 10 portions taken at random from one or more packages as required.

Raw Breaded Fish Sticks

Description of the product

Frozen raw breaded sticks are clean, wholesome, rectangular-shaped unglazed masses of cohering pieces (not ground) of fish flesh coated with breading. The sticks are cut from frozen fish blocks; are coated with a suitable, wholesome batter and breading; are packaged, and frozen in accordance with good commercial practice. They are maintained at temperatures necessary for preservation of the product. Frozen raw breaded fish sticks weigh up to and including 1½ ounces; are at least ⅜ inch thick; and their largest dimension is at least 3 times the

next largest dimension. All sticks in an individual package are prepared from the flesh of one species of fish.

Composition of the product

(a) Frozen raw breaded fish sticks shall contain 72 percent by weight of fish flesh determined by the official end-product method as set forth in Definitions (f). Fish flesh content may be determined by the on-line method as set forth in Definitions (g): *Provided* that the results are consistent with the fish flesh content requirement of 72 percent by weight when verified by the official end-product method.

(b) Production methods employed in official establishments shall be kept relatively constant for each production lot so as to minimize variation in any factors which may affect the relative fish flesh content.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Grades

(a) “U.S. Grade A” is the quality of frozen raw breaded fish sticks that:

(1) Possess good flavor and odor and
(2) rate a total score of not less than 85 points for those factors of quality that are rated in accordance with the scoring system outlined elsewhere in this part.

(b) “U.S. Grade B” is the quality of frozen raw breaded fish sticks that:

(1) Possess at least reasonably good flavor and odor and
(2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) “Substandard” is the quality of frozen raw breaded sticks that meet the requirements of Description of Product, but otherwise fail to meet the requirements of “U.S. Grade B.”

Determination of the grade

The grade is determined by examining the product in the frozen and cooked states and is evaluated by considering the following factors:

(a) *Factors rated by score points*. Points are deducted for variations in the quality of each factor in accordance with the schedule in Table 1. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100; the minimum score is 0.

(b) *Factors not rated by score points*. The factor of “flavor and odor” is evaluated organoleptically by smelling, and tasting, after the product has been cooked in accordance with § 264.271(c).

(1) Good flavor and order (essential requirements for a Grade A product) means that the cooked product has the typical flavor and odor of the indicated species of fish and of the breading and is free from rancidity bitterness, staleness, and off-flavors and off-odors of any kind.
(2) Reasonably good flavor and odor (minimum requirements of a Grade B product) means that the cooked product is lacking in good flavor and odor but is free from objectionable off-flavors and off-odors of any kind.

TABLE 1 -SCHEDULE OF POINT DEDUCTIONS PER SAMPLE UNIT OF 10 STICKS

Factors Scored	Method of determining score	Deduct
	Frozen State	
1. Condition of package	Small degree: Moderate loose breading and/or moderate frost Large degree: Excessive loose breading and/or excessive amount frost	2 5
2. Ease of separation	Minor: Hand separated with difficulty. Each affected Major: Separated only by knife or other instrument. Each affected	1 2
3. Broken stick	Break or cut greater than 1/2 length width. Each affected	10
4. Damaged stick	Mashed, mechanically and/or physically injured, misshaped or mutilated[1] Minor: 1 to 3 instances. Each affected Major: Over 3 instances. Each affected	 2 4
	Uniformity	
5. Size	Deviation in length or width between the 2 largest and 2 smallest sticks is: Up to 1/4 inch Over 1/4 inch and up to 1/2 inch Over 1/2 inch	 0 3 10
6. Weight	Weight ration of 2 heaviest divided by the 2 lightest sticks: Over 1.0 but not over 1.15 Over 1.15 but not over 1.3 Over 1.3 but not over 1.4 Over 1.4	 0 2 5 10
	Cooked State	
7. Distortion	Minor: Bending, shrinking, twisting (1/4 to 1/2 inch). Each affected Major: Excessive bending, shrinking, twisting (over 1/2 inch). Each affected	1 2
8. Coating defects	Bare spots, blistering, ridges, breaks, curds[1] Minor: 1 to 3 instances. Each affected Major: Over 3 instances. Each affected	 1 2
9. Blemishes	Skin, blood spots, bruises and discolorations[1] Minor: 1 to 6 instances. Each affected Major: Over 6 instances. Each affected	 2 4
10. Bones	Sticks containing bones (potentially harmful). Each affected	10
	Texture	
11. Coating	Small degree: Moderately dry, soggy, doughy or tough Large degree: Farinaceous (mealy), pasty, very tough	5 15
11. Fish Flesh	Small degree: Moderately dry, soft, mushy Large degree: Dry to point of fibrousness, very mushy tough or rubbery	5 15

[1]An instance = each 1/16 square inch (1/4-inch square).

Definitions

(a) Selection of the sample unit: The sample unit shall consist of 10 frozen raw breaded fish sticks taken at random from one or more packages as required. The fish sticks are spread out on a flat pan or sheet and are examined according to Table 1. Definitions of factors for point deductions are as follows:

(b) Examination of sample, frozen state:

(1) “Condition of package” refers to the presence in the package of loose breading and/or loose frost.
(2) “Ease of separation” refers to the difficulty of separating sticks from each other or from packaging material that are frozen together during the freezing.
(3) “Broken stick” means a stick with a break or cut equal to or greater than one-half the width of the stick.
(4) “Damaged stick” means a stick that has been mashed, physically or mechanically injured, misshaped, or mutilated to the extent that its appearance is materially affected. The amount of damage is measured by using a grid composed of squares ¼ inch (that is, squares with an area of 1/16 square inch each) to measure the area of the stick affected. Deductions are not made for damage less than 1/16 square inch.
(5) “Uniformity of size” refers to the degree of uniformity in length and width of the frozen sticks. Deviations are measured from the combined lengths of the two longest minus the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest. Deductions are not made for overall deviations in length or width up to 1/4 inch.
(6) “Uniformity of weight” refers to the degree of uniformity of the weights of the sticks. Uniformity is measured by the combined weight of the two heaviest sticks divided by the combined weight of the two lightest sticks. No deductions are made for weight ratios less than 1.15.

(c) Cooked state means the state of the product after cooking in accordance with the instructions accompanying the product. However, if specific instructions are lacking, the product for inspection is cooked as follows:

Transfer the product, while still in frozen state, into a wire mesh fry basket large enough to hold the fish sticks in a single layer and cook by immersing 2-3 minutes in 375° F. liquid or hydrogenated cooking oil. After cooking, allow the fish sticks to drain 15 seconds and place the fish sticks on a paper napkin or towel to absorb excess oil.

(d) Examination of sample, cooked state:

(1) “Distortion” refers to the degree of bending of the long axis of the stick. Distortion is measured as the greatest deviation from the long axis. Deductions are not made for deviations of less than ¼ inch.

Back to top

(2) “Coating defects” refers to breaks, lumps, ridges, depressions, blisters, or swells and curds in the coating of the cooked product. Breaks in the coating are objectionable bare spots through which the fish flesh is plainly visible. Lumps are objectionable outcroppings of breading on the stick surface. Ridges are projections of excess breading at the edges of the fish flesh. Depressions are objectionable visible voids or shallow areas which are lightly covered by breading. Blisters are measured by the swelling or exposed area in the coating resulting from the bursting or breaking of the coating. Curd refers to crater-like holes in the breading filled with coagulated albumin. Instances of these defects are measured by a plastic grid marked off in ¼-inch squares (1/16 square inch). Each square is counted as 1 whether it is full or fractional.
(3) “Blemishes” refers to skin, blood spots or bruises, objectionable dark fatty flesh, or extraneous material. Instances of blemishes refer to each occurrence measured by placing a plastic grid market off in ¼-inch squares (1/16 square inch) over the defect area. Each square is counted as 1 whether it is full or fractional.
(4) “Bones” means the presence of potentially harmful bones in a stick. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.
(5) “Texture defects of the coating” refers to the absence of the normal textural properties of the coating which are crispness and tenderness. Coating texture defects are dryness, sogginess, mushiness, doughyness, toughness, pastiness as sensed by starchiness or other sticky properties felt by mouth tissues and/or mealiness.
(6) “Texture defects of the fish flesh” refers to the absence of the normal textural properties of the cooked fish flesh which are tenderness, firmness, and moistness without excess water. Texture defects of the flesh are dryness, mushiness, toughness, and rubberyness.

(e) General definitions:

(1) “Small” (overall assessment) refers to a condition that is noticeable but is not seriously objectionable.
(2) “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.
(3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.
(4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.

(f) “Minimum fish flesh content--End-product determination” refers to the minimum percent, by weight, of the average fish flesh content of three frozen raw breaded fish sticks (sample unit for fish flesh determination), as determined by the following method:

(1) *Equipment needed*.

(i) Water bath (for example, a 3- to 4-liter beaker).
(ii) Balance accurate to 0.1 gram.
(iii) Clip tongs of wire, plastic, or glass.
(iv) Stop-watch or regular watch readable to a second.
(v) Paper towels.
(vi) Spatula, 4-inch blade with rounded tip.
(vii) Nut pick.
(viii) Thermometer (immersion type) accurate to ± 2° F.

(2) Procedure.

(i) Calculate the weight of three frozen raw breaded fish sticks by dividing the declared net weight on the label by the number of fish sticks indicated on the label to obtain the weight of an individual fish stick and multiply by three. If the number of fish sticks contained in the package is not declared on the label, the actual weight of three frozen raw breaded fish sticks shall be used.

(ii) Using tongs, place each stick individually in the water bath maintained at 63° F. to 120°F. and allow to remain until the breading becomes soft and can easily be removed from the still frozen fish flesh (between 10 to 110 seconds for sticks held in storage at O°F.).

(iii) At the end of the immersion, remove the fish stick from the water and blot the stick lightly with double thickness paper toweling. This step should be completed in no more than 7 seconds.

(iv) Scrape and remove the breading material and batter from the fish flesh with the spatula removing the softened breading material and batter from the narrow sides and ends of the stick on the initial movements, followed by removing the material from the wider flat surfaces.

(v) Residual batter and breading may remain on some sticks prepared using batters that are difficult to remove after one dipping. When this occurs redip the partially "debreaded" stick in 63° to 86° F. (room temperature) water for approximately 2 seconds. Follow step 3 toweling, and remove the softened residual batter and breading material.

(vi) Weigh all the "debreaded" fish sticks.

(vii) Calculate the percent of fish flesh in the sample unit by the following formula:

Percent fish flesh = Weight of fish flesh (vi)x100 / Weight of three breaded fish sticks (i)

Example. The declared net weight of five 1 oz. breaded fish sticks would be 5 ounces. The average weight of three groups of five unbreaded fish sticks would be 3.6 ounces. The percent fish flesh would be 72.

Percent fish flesh = Weight of fish flesh (sample unit) (i)x100/Declared net weight of raw breaded fish sticks x 5(ii)

(g) "Minimum fish flesh content on-line determination" refers to the minimum percent fish flesh, by weight, of the average weight of three groups of five fish sticks (sample unit for fish flesh determination), as determined by the following:

Equipment needed-Balance accurate to 0.1 gram.

(1) Procedure:

(i) Weigh three groups of five raw unbreaded fish sticks from the line. These weights should be recorded and averaged (average weight of three groups of five sticks) and percent fish flesh calculated immediately after the average weights are determined.

(ii) Calculate the percent fish flesh in the sample unit by using the average weight of three groups of five unbreaded fish sticks and the declared net weight of five breaded fish sticks.

(iii) Frequency of on-line fish flesh content determination. A minimum of three determinations of fish flesh content shall be carried out for small production runs or lots, i.e., 3 times (three groups of five unbreaded fish sticks). For larger production runs or lots, a minimum of 1 determination i.e., 1 times (three groups of five unbreaded fish sticks), shall be carried out for every hour of production of product units of the same weight.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Use of alternate methods of fish flesh determination

(a) The end-product method in Definitions (f) for determining fish flesh content shall be used for lot and appeal inspections and may be used for verification inspection.

(b) The on-line method in Definitions (g) for determining fish flesh content may be used during processing operations.

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260, Regulations Governing Processed Fishery Products.

Back to top

Raw Fish Portions

Description of the product

The product described in this part consists of clean, wholesome, shaped masses of cohering pieces (not ground) of fish flesh. The fish portions are cut from frozen fish blocks, and are packaged in accordance with good manufacturing practice. They are maintained at temperatures necessary for the preservation of the product. All fish portions in an individual package are prepared from the flesh of one species of fish.

Style

(a) *Style I - Skinless portions*. Portions prepared from fish blocks which have been made with skinless fillets.

(b) *Style II - Skin-on portions*. Portions prepared from fish blocks which have been made from demonstrably acceptable skin-on fillets.

Types

(a) *Type I-Uniform shaped.* All portions in the sample are uniformly shaped.
(b) *Type II-Specialty cut*. All portions not covered in Type I.

Grades

(a) “U.S. Grade A” is the quality of frozen raw fish portions that:

(1) Possess a good flavor and odor and that
(2) for those factors that are rated in accordance with the scoring system outlined in this part, have a total score of 85 to 100 points.

(b) “U.S. Grade B” is the quality of frozen raw fish portions that: (1) Possess at least reasonably good flavor and odor, and that (2) rate a total score of not less than 70 points for those factors of quality that are rated in accordance with the scoring system outlined in this part.

(c) “Substandard” or “Utility” is the quality of frozen raw fish portions that meet the requirements of Description of the Product but that otherwise fail to meet the requirements of “U.S. Grade B.”

Labeling requirements for styles of frozen fish portions

Section 260.86 (a), (b), and (c) of this chapter state the requirements for the use of approved grade marks, inspection marks and combined grade and inspection marks on processed fishery products. When an approved inspection mark is used on Style II (Style) of frozen raw fish portions, that style shall be conspicuously revealed on the label as having been made from “skin-on fillets.”

Determination of the grade.

The grade is determined by examining the product for factors 1-8 in the frozen state and factors 9-11 in the cooked state.

(a) *Factors rated by score points.* Points are deducted for variations in the quality of each factor in accordance with the schedule in Table I. The total of points deducted is subtracted from 100 to obtain the score. The maximum score is 100, the minimum score is 0.

(b) *Factors not rated by score points*. The factor of “flavor and odor” is evaluated organoleptically by smelling and tasting after the product has been cooked in accordance with Definitions and Methods (c).

(1) Good flavor and odor (essential requirements for U.S. Grade A product) means that the cooked product has the typical flavor and odor of the indicated species and is free from rancidity, bitterness, staleness, and other off-flavor and odors of any kind.
(2) Reasonably good flavor and odor (minimum requirements of a U.S. Grade B product) means that the cooked product is lacking in good flavor and odor, but is free from objectionable off-flavors and off-odors of any kind.

Definitions and methods.

(a) *Selection of the sample unit.* The sample unit shall consist of 10 frozen raw fish portions taken at random from one or more packages as required. The fish portions for examination in the frozen and cooked state are spread out on a flat pan or sheet and are examined according to Table 1. Definition of factors for point deductions are as follows:

(b) *Examination of sample, frozen state.*

(1) “Ease of separation” refers to the difficulty of separating the portions from each other or from the packaging material.
(2) “Broken portion” means a portion with a break or cut equal to or greater than one-half the width or length of the portion.
(3) “Damaged portion” means a physically or mechanically injured, misshaped or mutilated to the extent that its appearance is materially affected. The amount of damage is determined by using a grid composed of squares ¼ inch x ¼ inch to measure the area of the portion affected. No deductions are made for damage of less than ¼ inch x ¼ inch.
(4) “Voids” refer to objectionable holes, spaces, or depressions in the fish flesh. Instances of voids refer to each occurrence measured by placing a plastic grid marked of in ¼ inch squares at least 1/8 inch in depth over the affected area. Each square counted as one whether it is full or fractional. No deductions are made for voids of less than ¼ inch x ¼ inch.
(5) “Discoloration” is considered as a deviation in color from that normal to the species present in the portions.
(6) “Dehydration” refers to the presence of dehydrated (water-removed) tissue in the portions. Slight dehydration is surface dehydration which is not colormasking. Deep dehydration is colormasking and cannot be removed by scraping with a blunt instrument.
(7) “Uniformity of size” refers to the degree of uniformity in length and width of the frozen portions. Deviations are measured from the combined lengths of the two shortest and/or the combined widths of the two widest minus the combined widths of the two narrowest in the sample. Deductions are not made for overall deviations in length or width up to ¼ inch.
(8) “Uniformity of weight” refers to the degree of uniformity of the weights of portions. Uniformity is measured by the combined weight of the two heaviest portions divided by the combined weight of the two lightest portions in the sample. No deductions are made for weight ratios less than 1.2 for Type I.

(c) *Examination of sample, cooked state.* Cooked state means the state of the sample after cooking in accordance with instructions accompanying the product. However, if specific instructions are lacking, cooking is accomplished by:

(1) *Boil in bag method*. Insert the sample of frozen portions into a boilable film-type pouch; fold the open end of the pouch over a suspension bar and clamp in place to provide a loose seal after evacuating the air by immersing the pouch into boiling water. Cook the contents for 20 minutes (until the internal temperature of the portions reaches 160°F.).
(2) Steam method. Use 10 frozen portions, wrap them individually or in a single layer in aluminum foil, and place the packaged portions on a wire rack suspended over boiling water in a covered container. Steam the packaged portions for 20 minutes.
(3) *Bake method*. Package the 10 frozen portions as previously described. Place the packaged portions on a flat cookie sheet or shallow flatbottom pan of sufficient size so that the packages can be evenly spread on the sheet or pan. Place the pan and frozen contents in a properly ventilated oven preheated to 400°F. for 20 minutes.

(d) *Factors examined in cooked state.*

(1) “Blemishes” refers to skin (except for Style II), blood spots or bruises, objectionable dark fatty flesh, or extraneous material. Instances of blemishes refer to each occurrence measured by placing a plastic grid marked off in ¼ inch squares 1/16 square inch) over the defect area. Each square is counted as 1 whether it is full or fractional.
(2) “Bones” means the presence of potentially harmful bones in a portion. A potentially harmful bone is one that after being cooked is capable of piercing or hurting the palate.
(3) “Texture defects of the fish flesh and texture of skin in Style II” refers to the absence of the normal textural properties of the cooked fish flesh and to the absence of tenderness of the cooked skin in Style II. Normal textural properties of cooked fish flesh are tenderness, firmness, and moistness without excess water. Texture defects of the cooked flesh are dryness, mushiness, toughness, and rubberiness. Texture defects of the cooked skin in Style II are mushiness, rubberiness, toughness, and stringiness.

(e) *General definitions*.

(1) “Small” (overall assessment) refers to a condition that is noticeable but is only slightly objectionable.
(2) “Large” (overall assessment) refers to a condition that not only is noticeable but is seriously objectionable.
(3) “Minor” (individual assessment) refers to a defect that slightly affects the appearance and/or utility of the product.
(4) “Major” (individual assessment) refers to a defect that seriously affects the appearance and/or utility of the product.
(5) “Net weight”: The net weight of the portions if glazed shall be determined by the following method:

(i) Weigh the portions with the glaze intact, which gives the gross weight.
(ii) Thaw the glaze from the surfaces of the product with flowing tap water.
(iii) Gently wipe off the excess water from the surfaces with a single water saturated paper towel.
(iv) Weigh the deglazed portions, which gives the net weight.

[42 FR 52764, Sept. 30, 1977, as amended at 51 FR 34991, Oct. 1, 1986]

Tolerances for certification of officially drawn samples

The sample rate and grades of specific lots shall be certified in accordance with Part 260 of this chapter (Regulations Governing Processed Fishery Products).

TABLE 1 - SCHEDULE OF POINT DEDUCTIONS PER SAMPLE

Factors Scored	Method of determining score	Deduct
	Frozen State	
1. Ease of separation	Minor: Hand separated with difficulty. Each affected Major: Separated only by knife or other instrument. Each affected	3 6
2. Broken portion	Break or cut greater than 1/2 width or length. Each affected	10

3. Damaged portion	Mashed, mechanically and/or physically injured, misshaped or mutilated Minor: 1 to 5 instances[1]. Each affected Major: Over 5 instances. Each affected	 2 4
4. Voids	Holes, spaces or depressions: Minor: 1 to 5 instances. Each affected Major: Over 5 instances. Each affected	 1 2
5. Discoloration (overall assessment)	Small degree: Slight yellowing or rusting Large degree: Excessive yellowing or rusting	16 31
6. Dehydration (overall assessment)	Surface dehydration: Small degree: Easily scraped off with fingernail. Each affected Large degree: Deep dehydration not easily scraped off, affecting over 10 percent of surface area. Each affected	 5 10
7. Uniformity of size	Deviation in length or width between the 2 largest and 2 smallest portions that are similarly shaped Up to 1/4 inch Over 1/4 inch and up to 1/2 inch Over 1/2 inch	 0 3 10
8. Uniformity of weight	Weight ration of 2 heaviest divided by the 2 lightest Over 1.0 but not over 1.2 Over 1.2 but not over 1.3 Over 1.3 but not over 1.4 Over 1.4	 0 2 5 10
9. Blemishes	Skin (except for Style II) blood spots, bruises and discolorations: Minor: 1 to 6 instances[1]. Each affected Major: Over 6 instances. Each affected	 2 4
10. Bones	Portions containing bones (potentially harmful). Each affected	10
11. Texture	Small degree: Moderately dry, soggy, or tough Large degree: Dry to the point of fibrousness, very mushy, tough, or rubbery skin (Style II)	5 15

[1]An instance = each 1/4 - inch square.

Back to top

Salmon Steaks

Product description.

Frozen salmon steaks are clean, wholesome units of frozen raw fish flesh with normally associated skin and bone and are 2.5 ounces or more in weight. Each steak has two parallel surfaces and is derived from whole or subdivided salmon slices of uniform thickness which result from sawing or cutting dressed salmon perpendicularly to the axial length, or backbone. The steaks are prepared from either frozen or unfrozen salmon (Oncorhynchus spp.) and are processed and frozen in accordance with good commercial practice and are maintained at temperatures necessary for the preservation of the product. The steaks in an individual package are prepared from only one species of salmon.

(a) *Species.* Frozen salmon steaks covered by this standard are prepared from salmon of any of the following species:

Silver or coho (0. kisutch).

Chum or keta (0. keta).

King, chinook, or spring (0.tshawytscha).

Red, sockeye (0. nerka).

Pink (0. gorbuscha).

Styles

(a) *Style I-Random weight pack.* The individual steaks are of random weight and neither the individual steak weight nor the range of weights is specified. The steaks in the lot represent the random distribution cut from the head to tail of a whole dressed salmon.

(b) *Style II- Random weight combination pack*. The individual steaks are of random weight and neither the individual steak weight nor range of weights is specified. The steaks in the lot represent a combination of cuts from selected parts of the whole dressed salmon.

(c) *Style III - Uniform weight or portion pack*. All steaks in the package or in the lot are of a specified weight or range of weights.

Grades

(a) “U.S. Grade A” is the quality of frozen salmon steaks that possess good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlined in the following sections the total score is not less than 85 points.

(b) “U.S. Grade B” is the quality of frozen salmon steaks that possess at least reasonably good flavor and odor, and that for those factors which are rated in accordance with the scoring system outlines in the following sections the total score is not less than 70 points.

(c) “Substandard” is the quality of frozen salmon steaks that fail to meet the requirements of the “U.S. Grade B.”

Recommended dimensions

(a) The recommended dimensions of frozen salmon steaks are not incorporated in the grades of the finished product since dimensions, as such, are not factors of quality for the purpose of these grades. However, the degree of uniformity of thickness among units of the finished product is rated since it is a factor affecting the quality and utility of the product.

(b) It is recommended that the thickness (smallest dimension) of individually frozen salmon steaks be not less than ½ inch and not greater than 1½ inches.

Ascertaining the grade

The grade is ascertained by observing the product in the frozen, thawed, and cooked states and is determined by consideration of the following:

(a) *Factors rated by score points*. The quality of the product with respect to all factors is scored numerically. Cumulative point deductions are assessed for variations of quality for the factors in accordance with the schedule in Table I, in the frozen, thawed, and cooked states. The total deduction is subtracted from the maximum possible score of 100 to obtain the "product score."

(b) Factors governed by "limiting rule". The factors of flavor and odor, in addition to being rated by score points, are further considered for compliance with the "limiting rule" grade requirements of flavor and odor in Table I, as defined under Definitions.

(c) *Determination of the final Product grade*. The final product grade is derived on the basis of both the "product score" and the "limiting rule" grade requirements of flavor and odor, per Table I.

Definitions

(a) "Slight" refers to a defect that is scarcely noticeable and may not affect the appearance, the desirability, and/ or eating quality of the steaks.

(b) "Moderate" refers to a defect that is conspicuously noticeable (not seriously objectionable) and does not seriously affect the appearance, desirability and/or eating quality of the steaks.

(c) "Excessive" refers to a defect that is conspicuously noticeable (seriously objectionable) and seriously affects the appearance, desirability, and/or eating quality of the steaks.

(d) "Occurrence" is defined as each incidence of the same or different types of defects.

(e) "Cooked state" means that the thawed, unseasoned product has been heated within a boilable film-type pouch by immersing the pouch with product in boiling water for 10 minutes. Steaks cooked from the frozen state may require about two additional minutes of cooking.

(f) "Actual net weight" means the weight of the salmon steaks within the package after removal of all packaging material, ice glaze or other protective coatings.

(g) "Scored factors" (Table I):

(1) “General appearance defects” refer to poor arrangement of steaks, distortion of steaks, wide variation in shape, between steaks greater than normal number of head and/or tail pieces, imbedding of packaging material into fish flesh, inside condition of package, frost deposit, excessive or non-uniform skin glaze, and undesirable level of natural color.
(2) “Dehydration” refers to the appearance of a whitish area on the surface of a steak due to the evaporation of water or drying of the affected area.
(3) “Uniformity of thickness” means that the steak thickness is within the allowed -inch manufacturing tolerance between the thickest and thinnest parts of the steaks within a package or sample unit.
(4) “Uniformity of weight and minimum weight” is defined in Table I. (Portions are designated by “weight range” or “specified weight.” The “weight range” of portions bearing “specified weight” designation on containers shall be taken as the “specified weight” plus or minus 0.5 ounces unless otherwise specified.)
(5) “Workmanship defects” refers to appearance defects that were not eliminated during processing and are considered objectionable or poor commercial practice. They include the following: Blood spots, bruises, cleaning (refers to inadequate cleaning of the visceral cavity from blood, viscera and loose or attached appendages), cutting (refers to irregular, inadequate, unnecessary, or improper cuts and/or trimmings), fins, foreign material (refers to any loose parts, of fish or other than fish origin), collar bone, girdle (refers to bony structure adjacent to fin), loose skin, pugh marks, sawdust and scales.
(6) “Color defects”:

(i) “Discoloration of fat portion” means that the normal color of the fat shows increasing degrees of yellowing due to oxidation.
(ii) “Discoloration of lean portion” means that the normal surface flesh color has faded or changed due to deteriorative influences.
(iii) “Non-uniformity of color” refers to noticeable differences in surface flesh color on a single steak or between adjacent steaks in the same package or sample unit. It also includes color variation of the visceral cavity and skin watermarking.

(7) “Honeycombing” refers to the visible appearance on the steak surface of numerous discrete holes or openings of varying size.

(8) “Texture defect” refers to an undesirable increase in toughness and/or dryness, fibrousness, and watery nature of salmon examined in the cooked state.

(9) “Odor” and “flavor”:

(i) “Good flavor and odor” (essential requirement for Grade A) means that the fish flesh has the good flavor and odor characteristic of the indicated species of salmon, and is free from rancidity and from off-flavors and off-odors.

(ii) “Reasonably good flavor and odor” (minimum requirement for Grade B) means that the fish flesh may be somewhat lacking in the good flavor and odor characteristics of the indicated species of salmon, is reasonably free of rancidity, and is free from objectionable off-flavors and off-odors.

(iii) “Substandard flavor and odor” (substandard grade) means that the flavor and odor fail to meet the requirements of “reasonably good flavor and odor.”

[42 FR 52753, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Tolerances for certification of officially drawn samples.

The sample rate and grades of specific lots shall be certified on the basis of Part 260 Subpart A of this chapter, (Regulations Governing Processed Fishery Products).

Score sheet for frozen salmon steaks

Label .....
Size and kind of container.....
Container mark or identification .....
Size of lot .....
Number of packages per master carton..
Size of sample .....
Number of steaks per container.....
Product style .....
Actual net weight...(ounces)...(lb.) .....

Scored factors	Deductions
Frozen: General appearance defects. Dehydration glaze Uniformity of thickness Uniformity of weight Thawed: Workmanship defects Color defects Honeycombing Cooked: Texture Odor (Limiting rule-Table 1) Flavor (Limiting rule-Table 1)	
Total deductions	
Product score (100-Total deductions) Flavor and odor rating Final Grade	

TABLE 1-SCHEDULE OF POINT DEDUCTIONS FOR FACTORS RATED BY SCORE POINTS[1]

[See footnotes at end of table.]

SCORED FACTORS	DESCRIPTION OF QUALITY VARIATION	DEDUCT
FROZEN	Per occurrence:	
1. General appearance defects	Slight	1-2
	Moderate	3-4
	Excessive	5-10
2. Dehydration	(Per occurrence) for each 1 sq. inch of surface area	1
3. Unformity of thickness	For each 1/16 inch above ½-inch variation tolerance in steak thickness (max. deduction: 6 points).	2
4. Uniformity of weight and minimum weight	Style I & II – Random weight. For each steak between 2.5 and 3.0 ounces in weight per package or per pound of product for packages over 1 pound net wt.	4
	Style III – Uniform weight or portion. For each 0.1 ounce beyond the 0.1 ounce tolerance of the specified portion weight range per 5 lbs. of product.	1
THAWED	Per occurrence:	
5. Workmanship defects: Blood spots, bruises, cleaning, cutting, fins, foreign material, collarbone, girdle, loose skin, pugh marks, sawdust, scales	Slight	1
	Moderate	2-5
	Excessive	6-8
6. Color defects:		
(a) Discoloration of fatty portion	Slight	1-5
	Moderate	3-5
	Excessive	6-10
(b) Discoloration of lean portion	Slight	1-2
	Moderate	3-5
	Excessive	6-10
(c) Non-uniformity of color	Slight	1-2
	Moderate	3-4
	Excessive	5-6
7. Honeycombing	Percent sample are affected:	
	26 to 50	1
	51 to 75	2
	75 to 100	3
COOKED		
8. Texture defect (tough, dry, fibrous, or watery)	Slight	1-2
	Moderate	3-5
	Excessive	6-10
9. Odor[2]	Good (A)	0-2
	Reasonably good (B)	3-5
	Substandard (S)	6-15

10. Flavor:		
(a) Lean portion	Good (A)	0-2
	Reasonably good (B)	3-5
	Substandard (S).....	6-15
(b) Fatty portion	Good (A)	0-2
	Reasonably good (B)	3-5
	Substandard (S).....	6-15

[1] This schedule of point deductions is based on the examination of sample units composed of: (a) An entire sample package and its contents (for retail sized packages) or (b) a representative sub-sample consisting of about one pound of salmon steaks taken from each sample package (for institutional sized packages), except that the entire sample package or its equivalent shall be examined for factor 4.

[2] “Limiting rule” grade requirements of flavor and odor: Salmon steaks which received over 5 deduction points for odor, or flavor of the lean, or flavor of the fatty portion, shall not be graded above substandard, and those which receive between 3 to 5 points shall not be graded above “U.S. Grade B,” regardless of the total product score. (This is a “limiting rule” based on flavor and odor as defined under definitions.

[42 FR 52753, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Whole and Dressed Fish

Scope and product description.

This standard shall apply to whole or dressed fish, whether fresh or frozen, of any species suitable for use as human food and processed and maintained in accordance with good manufacturing practices.

Product forms.
(a) *Types*.
(1) Fresh.
(2) Frozen solid packs; glazed or unglazed.
(3) Frozen individually; glazed or unglazed.

(b) *Styles*.
(1) Whole.
(2) Dressed-eviscerated.
(3) Head-on or headless.
(4) With or without fins.
(5) Skin-on scaled or unscaled; semi-skinned (epidermis removed) or skinless.
(6) Other (as specified).

Grades-quality factors.

(a) *U.S. Grade A*. Whole or dressed fish shall:
(1) Possess good flavor and odor and;
(2) Comply with the limits for defects for U.S. Grade A quality in accordance with Determination of grade.

(b) *U.S. Grade B*. Whole or dressed fish shall:
(1) Possess reasonably good flavor and odor and;
(2) Comply with the limits for defects for U.S. Grade B quality in accordance with Determination of grade.

(c) *Substandard*. Whole or dressed fish does not possess reasonably good flavor and odor and/or exceeds the limits for defects for U.S. Grade B quality in accordance with Determination of grade.

Determination of grade.

(a) *Procedures for grade determination*. The grade shall be determined by sampling in accordance with the sampling plan described in paragraph (b) of this section evaluating odor and flavor in accordance with paragraph (c) of this section examining for defects in accordance with paragraphs (d), (e) and (f) of this section and using the results to assign a grade as described in paragraph (g) of this section.

(b) *Sampling*. The sampling rate of specific lots for all inspections, other than for military procurement, shall be in accordance with the sampling plans contained in Part 260 of this chapter except that the sample unit is ten (10) fish for fish weighing up to 10 pounds. Fish

weighing over ten (10) up to fifty (50) pounds the sample unit shall be five (5) fish. For fish weighing over fifty (50) pounds, the sample unit shall be a minimum of three (3)

(c) *Evaluation of flavor and odor*.

(1) Evaluation of the odor on each of the raw fish in the sample unit shall be carried out as follows:

(i) For the examination of small units, break the flesh or thawed sample either with the thumbs or by cutting with a knife in several places. Hold the cut or broken flesh close to the nose for evaluation.
(ii) For the examination of large units, a core may be used. Drill a hole into the hard frozen fish with a high speed quarter inch drill. As soon as the drill is withdrawn, the hole and drillings are smelled.

(2) If the results of the raw odor evaluation indicate the existence of any off-odors, the sample shall be cooked by any of the methods set forth below to verify the flavor and odor.

(i) *Boil in bag method*. Insert the sample into a boilable film-type pouch; fold the open end of the pouch over a suspension bar and clamp in place to provide a loose seal after evacuating the air by immersing the pouch into boiling water. Cook the contents for 20 minutes (until the internal temperature of the product reaches 160 degrees F.).
(ii) *Steam method*. Wrap the sample in a single layer of aluminum foil, and place on a wire rack suspended over boiling water in a covered container. Steam the packaged product for 20 minutes.
(iii) *Bake method*. Package the product as previously described. Place the packaged product on a flat cookie sheet or shallow flat-bottom pan of sufficient size so that the packages can be evenly spread on the sheet or pan. Place the pan and frozen contents in a properly ventilated oven preheated to 400 degrees F. for 20 minutes.

(3) The amount of material to be cooked shall be based on the results of the raw odor evaluation. A minimum of 25 percent of the sample except that not less than 3 sample units shall be used.

(d) *Examination for physical defects*. Each of the fish in the sample will be examined for defects using the list of defect definitions, and the defects noted and categorized as minor, major, and serious in accordance with Table 1.

(e) *Definitions of defects in whole or dressed fish*.

(1) “Abnormal condition” means that the normal physical and/or chemical structure of the fish flesh has been sufficiently changed so that the usability and/or desirability of the fish is adversely affected. It includes, but is not limited to, the following examples:

(i) Jellied--refers to the abnormal condition wherein a fish is partly or wholly characterized by a gelatinous, glossy, translucent appearance.
(ii) Milky--refers to the abnormal condition wherein a fish is partly or wholly characterized by a milky-white, excessively mushy, pasty, or fluidized appearance.
(iii) Chalky--refers to an abnormal condition wherein a fish is partly or wholly characterized by a dry, chalky, granular appearance, and fibrous structure.

(A) Moderate--refers to a condition that is distinctly noticeable but does not seriously affect the appearance, desirability and/or the eating quality of the product.
(B) Excessive--refers to a condition which is both distinctly noticeable and seriously objectionable.

(2) “Appearance defects” shall refer to the overall general appearance of the fish (consistency of the flesh, odor, eyes, gills, and skin) and presence of excessive blood or drip and appearance of the package.

(i) Slight--refers to an appearance defect that is slightly noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.
(ii) Moderate--refers to an appearance, defect that is conspicuously noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.
(iii) Excessive--refers to an appearance defect that is conspicuously noticeable and that does seriously affect the appearance, desirability, and/or eating quality of the fish.

(3) “Discoloration” refers to any color not characteristic of the species used.

(i) Slight--refers to the area affected by discoloration of significant intensity involving up to 10 percent of the total area.
(ii) Moderate--refers to the area affected by discoloration of significant intensity involving over 10 percent and up to 50 percent of the total area.
(iii) Excessive--refers to the area affected by discoloration of significant intensity involving 50 percent or more of the total area.

(4) “Dehydration” refers to loss of moisture from fish surfaces during frozen storage. For skin-on fish, dehydration shall be evaluated by degree of dullness and shrinkage.

(i) Slight dehydration--is surface color masking affecting more than 3 percent of the area which can be readily removed by scraping with a blunt instrument.
(ii) Moderate dehydration--is deep color masking penetrating the flesh, affecting less than 3 percent of the area, and requiring a knife or other sharp instrument to remove.
(iii) Excessive dehydration--is deep color masking penetrating the flesh, affecting more than 3 percent of the area, and requiring a knife or other sharp instrument to remove.

(5) “Surface defects” shall refer to the following where applicable:

(i) Scales. An occurrence of attached or loose scales in any sample unit (where applicable).
(ii) Blood spot. An accumulation of coagulated opaque, masses of blood on a fish.
(iii) Fins or pieces of fin. An occurrence or absence of attached or loose fins or pieces of fin in any sample unit (where applicable). Dorsal spine shall be removed (where applicable).
(iv) Skin. The presence of the dark or light inner layers of skin for skinless. For semi-skinned, reference is to the presence of the dark outside layers.
(v) Bruises. An accumulation of damaged portions of fish muscle, red and opaque in appearance (on a fish).

(vi) Damage to protective coating refers to voids in ice glaze or tears in covering membrane, also to breaks or splits in the skin which are readily discernible and not normally part of the processing.

(6) “Cutting and trimming defects” refers to the following:

(i) Body cavity cuts--refers to misplaced cuts made during evisceration.

(ii) Improper heading (as specified)--refers to the presence of pieces of gills, gill cover, pectoral fins (spine), or collarbone after the fish have been headed. No ragged cuts should be evident after heading.

(iii) Evisceration defects--refers to inadequate cleaning of the belly cavity of the fish. All viscera, kidney (where applicable), spawn, and blood should be removed.

(A) Slight degree of improper evisceration and improper heading refers to a condition that is scarcely noticeable but does not affect the appearance, desirability, and/or eating quality of the fish.

(B) Moderate degree of improper evisceration and improper heading refers to a condition that is conspicuously noticeable but does not seriously affect the appearance, desirability, and/or eating quality of the fish.

(C) Excessive degree of improper evisceration refers to a condition that is conspicuously noticeable and that seriously affect the appearance, desirability, and/or eating quality of the fish.

(iv) Improper washing--inadequate removal of slime, blood, and bits of viscera from the surface of the fish and from the body cavity.

(v) Belly burn--an enzymatic action on the flesh causing a burned or discolored appearance.

(7) “Texture defects” texture of the cooked fish; not characteristic of the species.

(i) Slight--fairly firm, only slightly tough or rubbery, does not form a fibrous mass in the mouth, moist but not mushy.

(ii) Moderate--moderately tough or rubbery, has noticeable tendency to form a fibrous mass in the mouth, moist but not mushy.

(iii) Excessive--excessively tough or rubbery, has marked tendency to form a fibrous mass in the mouth, or is very dry or very mushy.

(f) *Categorization of physical defects*. See Table 1.

TABLE 1

	Physical defects	**Categories**		
Types	**Degree**	**Minor**	**Major**	**Serious**
Abnormal condition	Moderate	-	201	-
	Excessive	-	-	301
Appearance defects	Slight	102	-	-
	Moderate	-	202	-
	Excessive		-	302
Discoloration	Slight	103	-	-
	Moderate	-	203	-
	Excessive	-	-	303
Dehydration	Slight - more than 3 percent area affected and easily removed.	104	-	-
	Moderate - less than 3 percent area affected but difficult to remove.	-	204	-

	Excessive - greater than 3 percent area affected	-	-	304
Surface defects	Slight - 3 to 10 percent are affected	105	-	-
	Moderate - greater than 10 percent area affected	-	205	-
Cutting and trimming defects	Body cavity cuts	106	-	-
	Improper heading:	-	-	-
	Slight	107	-	-
	Moderate	-	206	-
	Evisceration defects:	-	-	-
	Slight	108	-	-
	Moderate	-	207	-
	Excessive	-	-	305
	Improper washing	109	-	-
	Belly burn	-	208	-
Texture defects	Slight	110	-	-
	Moderate	-	209	-
	Excessive	-	-	306

NOTE: The code numbers shown in the above table are for identification of defects for recording purposes only and are keyed to the nature and severity of the defect. They are not scores.

(g) *Grade assignment*. (1) Each fish in a sample unit will be assigned the grade into which it falls in accordance with the limits for defects, summarized as follows:

Flavor and Odor		**Maximum number of physical defects permitted**		
		Minor	**Major**	**Serious**
Grade A	Good	3	0	-
Grade B	Reasonably good	5	1	-

(2) Upon determination of grade of each fish in each sample unit, the sample will be designated a grade as follows:

(i) *Grade A*.

Number of sub-sample units (fish)	**Minimum Number grade A fish**	**Maximum Number grade B fish**	**Maximum Number substandard**
10 (up to 10 lb)	8	2	0
5 (10 to 50 lb)	4	1	0
3 (over 50 lb)	3	0	0

(ii) *Grade B*.

Number of sub-sample units (fish)	Maximum Number grade B fish	Maximum Number substandard
10 (up to 10 lb)	8	2
5 (10 to 50 lb)	4	1
3 (over 50 lb)	3	0

(iii) *Substandard*. Any fish not meeting the minimum requirements for Grade B quality.

(3) Upon determination of the grade for each sample unit a lot of whole or dressed fish shall be assigned that grade in which:

(i) For physical defects, the number of sample units in the next lower grade does not exceed the acceptance number for deviants prescribed in § 260.61 of the sampling plan, Table II, and

(ii) Not more than 5 percent of the fish in sample (total fish examined per lot) are in the next lower grade for odor and/or flavor.

NOTE: Sampling for inspection for military procurement shall be in accordance with MIL-STD-105. Lot size shall be expressed in terms of pounds. The sample size shall be in accordance with Inspection Level S-3. Acceptable Quality Levels shall be expressed in terms of defects per hundred units. The AQL's shall be 6.5 for minor and 4.0 for major.

[42 FR 52750, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Hygiene.

Whole or dressed fish shall be processed and maintained in accordance with the applicable requirements of the regulations contained in §§ 260.96 to 260.103 of this chapter and of the good manufacturing practice regulations contained in 21 CFR Part 110.

[42 FR 52750, Sept. 30, 1977, as amended at 51 FR 34990, Oct. 1, 1986]

Canned Tuna

http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3003155

Canned Salmon

http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3003154

Pollock Nuggets

http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELDEV3003150

Chapter 2 – Minimum flesh content requirements for USDC inspected product

This list of minimum flesh requirements for standardized and non-standardized breaded and battered products is provided to assure all users of USDC inspected fishery products are aware of the minimum flesh requirements. These requirements apply to all species of battered and breaded fish and shellfish.

NOTE: USDC will certify coated, non-graded products without a standard of identity, etc., such as breaded fish sticks, breaded portions, and similar breaded fish products that contain less than 50% fish flesh if a statement immediately follows as part of the statement of identity declaring the amount of fish flesh actually present; e.g., “Breaded Fish Sticks Containing 45% Fish”.

	USDC GRADE MARK	PUFI MARK
FISH		
Raw Breaded Fillets	---	50%[1]
Precooked Breaded Fillets	---	50%
Precooked Crispy/Crunchy Fillets	---	50%
Precooked Battered Fillets	---	40%
Raw Breaded Portions	75%	50%
Precooked Breaded Portions	65%	50%
Precooked Battered Portions	---	40%
Raw Breaded Sticks	72%	50%
Precooked Breaded Sticks	60%	50%
Precooked Battered Sticks	---	40%
SCALLOPS		
Raw Breaded Scallops	50%	50%
Precooked Breaded Scallops	50%	50%
Precooked Crispy/Crunchy Scallops	---	50%
Precooked Battered Scallops	---	40%
SHRIMP		
Lightly Breaded Shrimp	65%	65%[2]
Raw Breaded Shrimp	50%	50%[2]
Precooked Crispy/Crunchy Shrimp	---	50%
Precooked Battered Shrimp	---	40%
Imitation Breaded Shrimp	---	NO MINIMUM. Encouraged to put percent on lbl.[3]
OYSTERS		
Raw Breaded Oysters	---	50%[4]
Precooked Breaded Oysters	---	50%[4]
Precooked Crispy/Crunchy Oysters	---	50%[4]
Precooked Battered Oysters	---	40%[4]
MISCELLANEOUS		
Fish and Seafood Cakes	---	35%
Extruded and Breaded Products	---	35%

[1] No USDC grading standard exists for products without Grade A percentages.

[2] FDA Standard of Identity requires product have 50% shrimp flesh by weight. If a product is labeled “lightly” breaded it must contain 65% shrimp flesh.

[3] Any product with a Standard of Identity which contains less flesh than the standard requires must be labeled imitation.

[4] Flesh content on oyster products can only be determined on an input weight basis during production.

Back to top

Chapter 3 – Official cooked fish yields for seafood

The following list has been developed for both standardized and non-standardized products to make all users of USDC inspected fishery products aware of the official cooked yield factors approved to date for use when establishing the meat/meat alternate yields for USDA/FNS approved Child Nutrition statements. These factors, developed using standard AOAC* cooking procedures, can be used to determine seafood yield (converting the raw edible seafood weight to cooked seafood weight by multiplying the weight of raw seafood in the product by its yield factor).

COOKED YIELD FACTORS FOR SEAFOODS BASED UPON STANDARD AOAC COOKING PROCEDURES	
(1) Products cut from regular frozen fish blocks	78%
(2) Fresh or frozen fish fillets, skin-on or skinless	70%
(3) Products made from frozen minced fish blocks	75%
(4) Products made from fresh or frozen minced clams	66%
(5) Products made from fresh or frozen minced shrimp	58%
(6) Rehydrated dry salted cod (before cooking)	75%

* Association of Official Analytical Chemists, 15th Edition, Section 971.13.

COOKED YIELD FACTORS FOR SEAFOODS AS LISTED IN THE USDA FOOD BUYING GUIDE FOR CHILD NUTRITION PROGRAMS*	
Seafood, Fresh or Frozen	
Crabmeat (fresh or frozen)	97%
Crawfish (cooked, peeled)	90%
Fish Fillets (fresh or frozen)	70%
Fish Portions, frozen unbreaded (block)	78%
Minced Clams (raw, shelled)	66%
Minced Clams (canned, drained)	87%
Minced Fish, (raw, frozen, block)	75%
Minced Shrimp (raw, peeled)	58%
Octopus (frozen)l	67%
Oysters, (fresh or frozen, shucked, drained)	50%
Scallops	53%
Shrimp, minced (raw, frozen)	58%
Shrimp, whole	
Cooked, peeled, and cleaned	
Thawed, ready-to-eat	100%
Frozen (all sizes except salad size)	83%
Frozen, salad size (150-200 count)	80%
Raw, peeled and cleaned	
Frozen	62%
Squid (frozen, block)	73%
Squid rings (frozen)	67%

*Selected yield information for seafood from the Revised *Food Buying Guide for Child Nutrition Programs*. The complete *Food Buying Guide for Child Nutrition Programs* can be viewed on the Healthy School Meal Resource System website at: *https://foodbuyingguide.fns.usda.gov/Appendix/DownLoadFBG*

Chapter 4 – Guidelines for Meeting the CN Requirements of the Food and Nutrition Services

The purpose of this section establishes standard procedures for use by official establishments when submitting fishery product labels and specifications for approval of a Child Nutrition (CN) label statement.

General

A. In order to assure that fishery products are approved to bear a CN label statement and can be credited toward meeting the meal pattern requirements, USDC and USDA/FNS are cooperating in the review and approval process of labels.
B. To assure acceptance by the schools of seafood products produced under Federal inspection, the products shall bear, at a minimum, the “Processed Under Federal Inspection” (PUFI) mark. The seafood components for all CN labeled products shall possess good flavor and odor characteristic of the species as defined in the appropriate U.S. Standards for Grades of Fishery Products. For those products bearing the PUFI mark only, the product may contain less than the minimum fish flesh requirement identified in the standard, as long as it contains the meat/meat alternate requirement of the CN statement.

Procedures

A. Contracting Party must:
    1. be a USDC official establishment with an approved contract for a minimum of 4 hours of Type I inspection per week;
    2. submit and receive approval of specifications used for CN labeled product in accordance Part I, Chapter 3, Section 08 of NOAA Inspection Manual 25. Specifications may be submitted prior to or along with CN label approval requests, using NOAA Form 89-819;
    3. follow the USDA procedures, Child Nutrition Labeling for Seafood Products, identified as attachments to this section; and 4. in the absence of the assigned inspector, may leave Block 11, USDC Inspector’s Signature, blank and place a statement in Block 14, Remarks, indicating the name of the inspector s supervisor with whom the submittal was discussed and who authorized the submittal. Such submittals will be verified by the Approving Officer prior to action.

       NOTE: Contracting parties may initially submit a NOAA Form 89-819 with a draft specification and label sketch to the Approving Officer, Documentation Approval and Supply Services Section, for review and comment by NMFS and USDA/FNS before formal submittal. Inquiries regarding the status of the label review are to be directed to the USDC Approving Officer.

B. Inspector will:
    1. review appropriate specification and CN label, and sign application form (NOAA Form 89-819) after ensuring completeness in accordance with the attachments to this section.
    2. forward five (5) copies of all labels and specifications with NOAA Form 89-819 to:

       Approving Officer, Documentation Approval and Supply Services Section
       3207 Frederic Street, Suite B - P.0. Drawer 1207
       Pascagoula, MS 39568-1207

    3. retain and file the Field Copy of the NOAA Form 89-819 until receipt of approval notice.

C. Approving Officer:

3. will review the request for completeness, legibility, and accuracy; sign and forward to USDA/FNS for CN label statement concurrence.
4. will distribute the approved/disapproved request as follows:
    a. original and Inspector Copy - to the USDC inspector who will forward the Original to the processor, file the Inspector Copy, and discard the Field Copy.
    b. DASS Office Copy - retained by the Approving officer.
    c. Regional Office Copy - forwarded to the Chief of the Regional Inspection Branch.
5. will resubmit the contracting party's corrected application, if necessary.

CN Guidelines

USDA AMS/FNS National School Lunch Program /Child Nutrition Program Grain Requirements, http://www.fns.usda.gov/cnd/governance/Legislation/nutritionstandards.htm

Chapter 5 – Codex Alimentarius Standards for Fish and Fishery Products, Codex guidelines, product standards, and recommended codes of practice for various foods and processes

Codex Alimentarius Standards for fish and fishery products, Codex guidelines, product standards, and recommended codes of practice for various foods and processes can be found on the Codex Alimentarius websites at Official Standard List.
The following list contains the current seafood-related standards.
http://www.codexalimentarius.org/?lang=en

a. Guidelines for Sensory Evaluation of Fish and Shellfish in Laboratories (CAC/GL 31)
b. General Standards for Quick Frozen Fish Fillets (Codex Stan 190)
c. Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh (Codex Stan 165)
d. Quick Frozen Finfish (Codex Stan 36)
e. Quick Frozen Fish Sticks (Fish Fingers), Fish Portions, and Fish Fillets – Breaded or in Batter (Codex Stan 166)
f. Quick Frozen Shrimps or Prawns (Codex Stan 92)
g. Quick Frozen Lobster (Codex Stan 95)
h. Quick Frozen Raw Squid (Codex Stan 191)
i. Canned Finfish (Codex Stan 119)
j. Canned Salmon (Codex Stan 3)
k. Canned Tuna and Bonito (Codex Stan 70)

l. Sardines and Sardine-type Products (Codex Stan 94)
m. Canned Shrimps or Prawns (Codex Stan 37)
n. Canned Crab Meat (Codex Stan 90)
o. Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes (Codex Stan 167)
p. Dried Shark Fin (Codex Stan 189)
q. Crackers from s and Freshwater Fish, Crustacean and Molluscan Shellfish (Codex Stan 222)
r. Recommended Methods of Analysis and Sampling (Codex Stan 234)
s. Boiled Dried Salted Anchovies (Codex Stan 236)
t. Salted Atlantic Herring and Salted Sprat (Codex Stan 244)
u. Live and Raw Bivalve Molluscs (Codex Stan 292)
v. Recommended International Code of Practice for the Processing and Handling of Quick Frozen Foods CAC/RCP 8)
w. Recommended International Code of Hygienic Practice for Lobsters (CAC/RCP 24)
x. Recommended International Code of Hygienic Practice for Smoked Fish (CAC/RCP 25)
y. Recommended International Code of Hygienic Practice for Crabs (CAC/RCP 28)
z. Recommended International Code of Hygienic Practice for the Processing of Frog Legs (CAC/RCP 30)
aa. Code of Hygienic Practice for Aseptically Processed and Packaged Low-Acid Foods (CAC/RCP 40)
bb. Recommended International Code of Hygienic Practice for Low-Acid and Acidified Low-Acid Canned Foods (CAC/RCP 23)
cc. Code of Hygienic Practice for Refrigerated Packaged Foods with Extended Shelf-Life (CAC/RCP 46)
dd. Code of Practice for Fish and Fishery Products (CAC/RCP 52)
ee. Code of Practice for the Prevention and Reduction of Lead Contamination in Foods (CAC/RCP 56)
ff. Code of Practice for the Prevention and Reduction of Tin Contamination in Canned Foods (CAC/RCP 60)
gg. Code of Practice for the Reduction of Contamination of Food with Polycyclic Aromatic Hydrocarbons (PAH) from Smoking and Direct Drying Processes (CAC/RCP 68)
hh. Guideline Procedures for the Visual Inspection of Lots of Canned Foods for Unacceptable Defects (CAC/GL 17)
ii. Principles for Food Import and Export Certification and Inspection (CAC/GL 20)
jj. Model Certificate for Fish and Fishery Products (CAC/GL 48)
kk. General guidelines on sampling (CAC/GL 50)
ll. Guidelines on the Application of General Principles of Food Hygiene to the Control of Listeria monocytogenes in Ready-to-Eat Foods (CAC/GL 61)

Chapter 6 – Exports

a. **Canada's Position on Artificial Color in Cooked Shrimp**
Canada's Department of Fisheries and Oceans (DFO) recently (ca. 1996) distributed a bulletin advising interested parties of FDA's decision to allow the use of artificial colors in cooked shrimp. The bulletin further states the allowance is based on proper labeling of the cooked shrimp with the principal display panel indicating that the product is artificially colored cooked shrimp and the color agent is identified in the ingredients statement. However, of greater importance, the bulletin identifies the Canadian position on the use of artificial color in cooked shrimp. Per the Canadian regulations, artificial colors are not permitted in cooked shrimp sold in Canada. Consequently, USDC Voluntary Seafood Inspection Program will not inspect or certify cooked shrimp destined for Canada that contain artificial color, as defined by FDA's Announcement. The bulletin from Canada's DFO is summarized below:
The purpose of this bulletin is to inform manual holders of a recent change in the United States Food and Drug Administration (USFDA) policy concerning the use of artificial colours on cooked shrimp. Earlier this year (1996) the Office of Seafood, USFDA, decided to permit the use of an artificial colour, FD&C Red No. 40 (Allura Red in the Canadian Food and Drug Regulations), on cooked shrimp if the principal display panel indicates the product as being artificially colored cooked shrimp and the coloring agent used is declared in the list of ingredients.
In accordance with the [Canadian] Food and Drug Regulations, coloring agents are not permitted on cooked shrimp sold in Canada. Therefore, if product is imported and labeled as "artificially colored", the lot is to be rejected for non-permitted additives. Also, if imported shrimp are suspected to contain a coloring agent, specifically Allura Red, the lot should be detained, sampled and analyzed for the presence of this agent.

b. **Bloody Catfish**
(To be added)

Chapter 7 – Laboratory Analyses

a. Cryovac Vacuum Packaged Marine Fresh Fish Products (Salt Water Species Only)
(To be added)
b. Vacuum Packaged Hot-Processed Smoked or Hot-Processed Smoke-Flavored Salmon
(To be added)
c. Vacuum and Modified Atmosphere Packaged (VAC and MAP) Marine and Estuarine Bulk Raw Fishery Products Held at Only Refrigerated Temperatures (non-frozen)
(To be added)

Chapter 8 – Instructions for Collecting and Submitting Analytical Samples to the NSIL

Introduction

The USDC Seafood Inspection Program includes analytical laboratory services for verification purposes. The USDC inspection and certification of product includes safety/quality criteria that are a critical part of the Program's functions. Periodic laboratory analyses through this surveillance technique are an additional method of maintaining assurances that the Program's participants meet the federal regulatory, importing country, and/or Program's requirements. The costs of product sampling and analyses are being borne by the Program as a necessary aspect of the Program's verification process.

The purpose of bacteriological and chemical analyses is to provide a level of assurance regarding the absence or amount of certain possible hazards that may be associated with the identified lot of fish and fishery products. The objective for the CSOs/CSIs is to obtain a representative sample of the identified lot and submit the sample to the laboratory in a condition chemically and/or bacteriologically unchanged from that existing within the product at the time of sampling. Aseptic sampling technique must be used to avoid sample contamination by microorganisms and chemicals during sampling procedures.

CSOs/CSIs should be familiar with aseptic sampling techniques through previous training, i.e. FDA satellite downlink video entitled "Food Microbiological Control," and review these techniques prior to collecting samples. The Technical Services Branch Training Section has made these videos available to the field offices. Remember that appropriate measures must be taken to prevent, as far as practicable, any sample contamination and microbial growth or death during the handling, storage and transport of the samples to the laboratory.

General Directions and Supplies

Each supervisory office will store, with a few exceptions, the disposable, single use items necessary to collect the predetermined number of samples for a fiscal year (October through September). Upon the laboratory's request, each supervisor or designated personnel will be responsible to inventory supplies so that additional supplies can be ordered for the upcoming fiscal year.

In situations where the CSOs/CSIs are stationed in an area distant from the supervisory office, the supervisor or designated personnel may dispense the necessary items to the CSOs/CSIs to collect the appropriate number of samples and sample sizes from a company within a fiscal year (October through September). (See section D. Sample Numbers and Sample Sizes, and Attachment #1: Table entitled "USDC Analytical Laboratory Services Sampling Program and Analyses").

In other situations where the CSOs/CSIs are stationed in close proximity to the supervisory office, or are stationed at the supervisory office, the CSOs/CSIs may receive an assembled sample collection kit from the supervisor or designated personnel when sampling of product is anticipated, or they may assemble a sample collection kit themselves.

Reusable sterile containers and other reusable items, if needed, may be supplied by the laboratory. When reusable sterile containers and other reusable items are needed, the laboratory is to be notified well in advance so that these sterile containers and other reusable items can be shipped to a designated location. Reusable containers and other reusable items must be returned to the laboratory for re-sterilization.

Standard or typical items for aseptic sampling, depending upon the product being sampled, consist of the following:

1. Standard or typical items

Containers

Clean, dry, sterile, leak-proof containers such as disposable sterile plastic bags, wide-mouth glass or plastic jars with screw-top caps, sterile stainless metal cans, with adequate capacity for the sample to be collected.

Collecting equipment

Sterile gloves and/or sterile scoops.

Cutting instruments

Knives and/or scissors for opening food packages. When collecting samples for microbiological analyses, these must be sterile.

Instructions

Sample collection guidelines, including information forms.

Insulated containers/gel packs/sealable plastic bags

Foamed plastic boxes or other insulated containers suitable for transporting and/or holding frozen or chilled samples and, if necessary, gel packs (blue ice). Gel packs should be frozen prior to sample collection. Sealable plastic bags may be needed for completed information forms.

Labels and markers

Light-colored waterproof cardboard tags with reinforced eyelet hole and wire or cord ties, gum-backed paper labels, adhesive-backed tape, and/or felt-tipped permanent markers. (All must be waterproof.)

Sterilizing agents

Alcohol wipes, other disinfectant wipes, solution for sanitizing hands or surfaces, alcohol container with screw-type lid with isopropyl alcohol 91%, and lighter.

2. Additional items

In addition to the above items, the following items may be necessary for certain collections:

Dry ice

Dry ice may be used. **If a lot inspection office or a company ships packages with dry ice, ensure that whoever signs the shipping document has completed the DOT Hazardous Shipper Training and has a copy of his or her current training certificate.** If the container is to be shipped to the laboratory by a common carrier, i.e. Federal Express, the words “dry ice” and weight of dry ice must be declared on package and label.

Refrigerator and/or freezer

Refrigerator capable of maintaining samples at 32-38°F (0-3.3°C) and/or freezer capable of storing frozen samples at –20 to 0°F (-28.9 to 17.8°C).

Sterilizing agents

Alcohol burner with denatured ethyl alcohol, alcohol burner’s storage container with snap-on lid, and/or lighter. Flaming procedures for sterilizing reusable cutting instruments and collecting equipment should only be done in a location where open flame is not an unacceptable hazard, and when other measures of assuring aseptic collection are not feasible. Combustible alcohol such as used in the burner may be considered a hazardous material and requires specific labeling and shipping requirements.

Thermometer

A thermometer capable of reading sample temperatures, i.e. -40 to 160°F (-4.4 to 71.1°C).

Sample Program

USDC analytical laboratory services apply only to high-risk products that are processed at a company or stored at a company or a designated warehouse and inspected by USDC Inspection Services.

The **high-risk products** are subdivided into **four groups**: (1) ready-to-eat (fully cooked, pasteurized, pickled, or smoked) fish and fishery products (excluding canned products, but including fully cooked battered/breaded products); (2) raw or canned histamine-forming species; (3) battered/breaded shrimp (excluding fully cooked battered/breaded shrimp); and (4) raw shrimp. **For each group, two lots will be sampled every fiscal year (October through September) from each company under contract.**

Depending upon the product, the number of samples per lot and type of analyses varies. The table entitled "USDC Analytical Laboratory Services Sampling Program and Analyses" outlines this information in simple format for guidance purposes and is provided as Attachment #1 to these guidelines.

It is imperative for the sample collection to be spread out during the course of the fiscal year. Therefore, the fiscal year is subdivided into the following trimesters: (1) October – January; (2) February – May; and (3) June – September. In any given trimester, the laboratory will accept a maximum of one-third of all products, from each supervisor's list of companies and products, unless other arrangements have been agreed upon. For tracking purposes only, each trimester is now subdivided into months on the spread sheet.

Sample Numbers and Sample Sizes

Only collect the number of samples from the products identified below. If the product is not identified below or is not inspected by USDC Inspection Services, DO NOT collect it.

Ready-To-Eat Fish and Fishery Products

For ready-to-eat (fully cooked, pasteurized, pickled or smoked) fish and fishery products (excluding canned products but including fully cooked battered/breaded products), collect 6 samples per lot. The minimum sample size is 8.0 ounces.

If a primary package is less than 8.0 ounces, contact NSIL and provide the following information: product type and the primary package's net weight. Depending on the information provided, it may be acceptable to submit one primary package as a single sample instead of additional primary packages to complete the minimum sample size.

Raw Or Canned Histamine-Forming Species

For raw or canned histamine-forming species, collect 6 samples per lot for product destined to remain in United States commerce and collect 9 samples per lot for product destined for shipment to the European Union. The minimum sample size for raw or canned histamine-forming species is an 8.0-16.0 ounce fillet, whole steak, or whole fish.

Remember, if a primary package is less than 8.0 ounces, contact NSIL and provide the following information: product type and the primary package's net weight. Depending on the information provided, it may be acceptable to submit one primary package as a single sample instead of additional primary packages to complete the minimum sample size.

Canned histamine-forming species require one whole can for each sample, except the 64-ounce can. Aseptically remove a minimum of 8.0 ounces of product from each of the 64-ounce cans for each sample.

Note: A list of histamine-forming species is provided as Attachment #2 to these guidelines. For additional information on histamine forming species see Table #3-1 "Potential Vertebrate Species Related Hazards" in the FDA "Fish and Fisheries Products Hazards & Controls Guidance" document.

Battered/Breaded Shrimp

For battered/breaded shrimp (excluding fully cooked battered/breaded shrimp), collect 5 samples per lot. The minimum sample size is 8.0 ounces.

If the CSOs/CSIs are present during the battered/breaded processing and are collecting samples on-line, the CSOs/CSIs may take shrimp samples prior to being battered/breaded. However, it is imperative to indicate that the shrimp samples are "raw breaded shrimp" on the submitted USDC Analytical Laboratory Services Information Form (Company, Product, and Sample Information). (See Attachment #3.)

Raw Shrimp

For raw (fresh or frozen) shrimp, collect 5 samples per lot. The minimum sample size is 8.0 ounces.

Sample Collection

In order to obtain samples representative of the lot, remember to collect the samples randomly. Whenever possible, if collecting samples on-line, collect samples during the course of production time, i.e. every half hour or every hour. If collecting samples in-storage, collect samples from different pallets and pallet locations.

Sample collection should be a planned activity. For HACCP QMP companies, sample collection will likely accompany a company audit. The Region audit function should determine which products to sample and the lead auditor should determine where best to collect the samples and what collection techniques should be employed. If a HACCP QMP audit is being performed and products under the USDC Seafood Inspection Program are not processed that day, samples (if available) can be drawn from cold storage. If samples are not available that day, then samples can be drawn on another day. Sampling does not necessarily have to coincide with an audit. However, the Sampling Program still applies as long as such products are processed or stored at the company or a designated warehouse and inspected by the USDC Seafood Inspection Program (See section C. Sample Program).

For non-HACCP contract and non-contract companies, sample collection can be accomplished during inspection services by an assigned CSO/CSI. Before any collection activity occurs or sampling equipment is presented, the responsible company representative should be notified of the intent to collect samples, and be told why it is a necessary verification aspect of the Program (See Introduction). The company's representative should be informed of the current Program guidelines (See Sample Program section), and types of analyses being performed (See Table in Attachment #1). The CSO/CSI should offer to take duplicate samples for the company. The company may wish to retain these samples or have them analyzed at the company's expense.

After requesting to sample product, the CSOs/CSIs should make sure that all sample collection equipment is available and that the gel packs have been kept in a solidly frozen state. Prior to initiating the sampling, don clean protective clothing, such as a lab coat, hat and hairnet, and wash and sanitize your hands.

Whenever practicable and the package size allows, collect the required number of samples and minimum sample sizes as intact pre-packaged products (See Sample Numbers and Sample Sizes and Attachment #1). Label each sample and store the sample as appropriate until it is shipped to the laboratory for analyses. (See Labeling Sample Containers).

Under certain conditions, pre-packaged products may not be available or the package size does not warrant intact shipment of the samples to the laboratory. Then the required number of samples and minimum sample sizes must be aseptically collected from “on-line” or aseptically removed from the larger packages (See Sample Numbers and Sample Sizes and Attachment #1.)

When collecting the sample “on-line”, pre-label the sterile containers (See Labeling Sample Containers.) If “on-line” personnel are present, request that they place the sample from the line into the sterile container without touching the inside of the container. On completion of filling, the sterile container should be closed and stored as appropriate. Continue collecting the samples until all requirements for the product are met according to Sample Numbers and Sample Sizes section and the table in Attachment #1.

If product material is not available before packaging, or if the packages are too large to be drawn as intact samples, the CSOs/CSIs must collect the required number of samples aseptically. Randomly collect the required number of larger packages from their storage area and move them to a clean location, such as the QC lab. Place the package upon a previously cleaned and sanitized counter top. The package surfaces to be opened should be wiped with an alcohol wipe to remove surface contamination. Carefully open the cleaned area of the package with a sterile knife or sterile scissors, or if present, the package zip-locked. After opening, some product forms may be poured directly into the open, sterile, pre-labeled container. If the product size or form does not allow pouring, the pieces must be removed with sterile gloves, sterile forceps, sterile tongs, or sterile scoops. Care should be taken to avoid the product from touching the outside of the container or non-sterile handling equipment. After filling the collection container, promptly seal it to avoid contamination.

Continue collecting the samples until all requirements for the product are met according to Sample Numbers and Sample Sizes and the table in Attachment #1. Remember to change gloves and/or sterilize cutting instruments and collecting equipment between each sample being collected. Store the collected samples at appropriate temperatures until shipment to the laboratory, and return the opened packages to the processing line or responsible company personnel.

Labeling Sample Containers

Labels should be filled out prior to sampling with the following information:

a. Company name
b. Product lot number
c. Sample number
d. Date
e. Name(s) of individual collecting samples.

If the samples remain in the original packaging, affix a label to it. Place the original package with affixed label into another sealable plastic bag. If the samples are placed into other sterile containers with the exception of “write-on” sterile plastic bags, i.e. whirl pack bags, affix labels to containers.

If sample containers are “write-on” sterile plastic bags, this information is written directly on the bags without using labels.

Information Form

The CSO/CSI collecting samples must **completely** fill out the **attached** USDC Analytical Laboratory Services Information Form regarding company, product, and sample information (Attachment #3). Please use **blue pen** so that the original information form can be distinguished from copies. It is recommended that you make copies of the completed form for your files and for the company contact's files. A copy of the completed form must be sent to the NSIL prior to sample shipment. Email the copy of the form to the Sample Custodian at NSIL.Sample.Custodian@noaa.gov. Place the original completed form in a sealable plastic bag and forward it to the laboratory along with samples. The information form should provide the following information relevant to each lot:

Company Information

1. Company's Contract (√): Place a check mark next to the appropriate company's contract [HACCP QMP, non-HACCP Contract, Non-Contract].
2. Company's **Full** Name: Write the company's **full** name as written in the USDC Participants List for Firms, Facilities and Products. If not in the list, write the company's **full** name so that it can appear correctly on the official letter, envelope, and copy of analytical results. Include endings such as Company, Corporation, Inc., Ltd., etc.
3. Company's **Location** Address: Write the company's **location** address as written in the USDC Participants List for Firms, Facilities, and Products. If not in the list, write the company's location address.
4. Company Contact's **Full** Name (√): The company contact should be the company's designated individual to receive the official letter and copy of analytical results. Place a check mark next to the appropriate title (Dr., Mr., Mrs., or Ms.). Write the company contact's **full** name so that his or her name can appear correctly on the official letter and envelope. (For example, William Doe instead of Bill Doe and Christine Doe instead of Chris Doe). Also, please make sure the name is spelled correctly.
5. Company Contact's **Mailing** Address: Write the company contact's **mailing** address so that it can appear correctly on the official letter and envelope and insure that it will be received by the company's designated individual. Please verify this address as it will be used for submission of laboratory results to the company.
6. Company Contact's Title: Write the company contact's title so that it can appear correctly on the official letter and envelope.
7. Company Contact's Telephone Number: Write the company contact's telephone number. If there is extension, please include it.
8. Company Contact's Fax Number: Write the company contact's fax number.
9. Company Contact's email address: Write the company contact's email address.
10. **Full** Name and Signature of Company's Representative Acknowledging Samples Collected for Analyses: Write the **full** name of company's representative acknowledging that samples were collected for analyses. Have the company's representative sign his or her name acknowledging that samples were collected for analyses. **The company's representative may or may not be the same as the company's contact.**

Product Information

1. Product Brand: Write the Product Brand, as it appears on the master cases or primary packages. If the product brand does not appear on either, write N/A for not applicable.
2. Packer's **Full** Name: Write the packer's **full** name, as it appears on the master cases or primary packages. If the packer's **full** name does not appear on either, write N/A for not applicable. However, if the packer is known, next to N/A, write the packer's **full** name.
3. Distributor's **Full** Name: Write the distributor's **full** name, as it appears on the master cases or primary packages. If the distributor's **full** name does not appear on either, write N/A for not applicable. However, if the distributor is known, next to N/A, write the distributor's **full** name.
4. Product State I (√): Place a check mark next to the appropriate product state (fresh, frozen, or other).
5. Product State II (√): Place a check mark next to the appropriate product state (perishable or shelf-stable).
6. Product Group (√): Place a check mark next to the appropriate product group (ready-to-eat, histamine producer, battered/breaded shrimp, or raw shrimp).
7. Product's Full Description: Write the product's full description, i.e. ready-to-eat smoked mackerel fillets, raw yellowfin tuna steaks, batter-dipped precooked shrimp, raw peeled and deveined IQF 60/100 shrimp.
8. Country of Origin: Write the country of origin. For example, if the product is raw shrimp originally from Indonesia, then processed as raw breaded shrimp, the country of origin will be Indonesia and not the United States.
9. Product Of: Write the country where product is from. For example, if the product is raw shrimp originally from Indonesia, then processed as raw breaded shrimp, the "product of" will be the United States and not Indonesia. In other words, the "product of" is the country where the final product is processed.
10. Product Packaging (√): Place a check mark next to the appropriate packaging (bag, box, can, jar, shrimp ring, vacuum pack, or other).
11. Ingredient Statement: Write the ingredients as written on the primary package. In lieu of writing out the ingredients, attach a copy of the end-product label to the back of the information form. If there is not an ingredient statement, write N/A for not applicable.
12. Lot Size (Master Cases): Write the total number of master cases and weight of individual master cases in the lot, i.e. 500-cases/10-lbs. each.
13. Lot Size (Primary Packages): Write the total number of primary packages and the weight of individual primary package, i.e. 5,000-packages/1-lb. each.
14. Lot Number: Write the lot number. It is important the lot number can trace back the product in case the submitted samples fail analyses.
15. Pack Date (mm/dd/yy): Write the pack date, i.e. 10/01/06.
16. Expiration Date (mm/dd/yy): Write the expiration date, i.e. 10/01/07, as it appears on the master cases or primary packages. If it does not appear on either, write N/A for not applicable.
17. UPC Code: Write the UPC Code, as it appears on the master cases or primary packages. If it does not appear on either, write N/A for not applicable.

Sample Information

1. Sample Date (mm/dd/yy): Write the sample date, i.e. 11/01/06.
2. Sampled (√): Place a check mark next to the appropriate sampling procedure (online or in-storage).
3. Sample Temperature: Write the sample temperature taken during sampling (°F/). If the product is frozen solid, then write "FS".
4. Sample Size (Number) (√): Place a check mark next to the appropriate number of samples taken (5, 6, or 9). Please make sure the number of samples coincides with section D. Sample Numbers and Sample Sizes and the table in Attachment #1. **If the number of samples does not coincide with Sample Numbers and Sample Sizes and the table in Attachment #1, contact the laboratory prior to shipment.**
5. Sample Unit: Write the weight of the sample size in ounces.
6. Name of CSO's/CSI's Immediate Supervisor: Write the name of your immediate supervisor. If a submitted sample fails analyses, it is the laboratory's responsibility to contact the supervisor in order that he can take appropriate action.
7. Immediate Supervisor's Telephone/email address: Write your immediate supervisor's telephone and email address. If a submitted sample fails analyses, it is the laboratory's responsibility to contact the supervisor via telephone and to forward analytical results via fax or email in order that he can take appropriate action.
8. **Full** Name of CSO/CSI Collecting Samples: Print your **full** name.
9. CSO's/CSI's Telephone/email address: Write your telephone and email address.
10. Signature of CSO/CSI Collecting Samples: Sign your **full** name.
11. Comments: If you have any additional comments regarding the submitted samples, write your comments here. If you need additional space, write your comments on the back of the information form.

Packing Samples and Shipping Containers

If the product is canned (shelf-stable) or is in a dry condition, take no particular precaution to avoid temperatures above 40°F (4.4°C). However, pack samples so that the samples are not damaged. If the product is perishable and fresh or thawed, cool samples to 32-38°F (0-3.3°C) and transport them in a protective insulated container. Pack samples with layers of frozen gel packs in sufficient quantity to maintain the product at a temperature not to exceed 38°F (3.3°C) for the duration of transportation to the lab. Any excess space should be filled so that the samples and gel packs cannot shift and separate from one another. Crunched up newspaper is recommended for filling up excess space because it is also a good insulator and will help keep samples cold. The container should be marked "**Perishable Product**" and shipped the same day of collection.

If the product is perishable and frozen, maintain samples in the frozen state -20 to 0°F (-28.9 to -17.8°C) and transport them in a protective insulated container. Pack the samples with layers of frozen gel packs or dry ice in sufficient quantity to maintain the product at a temperature not to exceed 0°F (-17.8°C) for the duration of transportation to the lab. Any excess space should be filled so that the samples and gel packs cannot shift and separate from one another. Crunched up newspaper is recommended for filling up excess space because it is also a good insulator and will help keep samples cold. The container should be marked "**Perishable, Frozen Product**".

If a lot inspection office or a company ships packages with dry ice, ensure that whoever signs the shipping document has completed the DOT Hazardous Shipper Training and has a copy of his or her current training certificate. Use dry ice (solid carbon dioxide) as the refrigerant if the time spent in transport may lead to thawing. Any excess space should be filled

so that the samples and dry ice cannot shift and separate from one another. Crunched up newspaper is recommended for filling up excess space because it is also a good insulator and will help keep samples cold. Dry ice weighing approximately ½ the sample weight is sufficient for this purpose provided the container is insulated with 1 ½-2 inches of a foam-type material, and is tightly sealed. The container should be marked "**Perishable, Frozen Product**".
If the container is to be shipped to the laboratory by a common carrier, i.e. Federal Express, it is imperative to send it "FedEx Priority Overnight (next business morning), and indicate the total number of packages and weight on the label. Also, if dry ice is used, the words "dry ice" and weight of dry ice must be declared on package and label.
Please make sure to weigh the container and to round it to the nearest pound. In order to avoid excessive shipping charges, DO NOT estimate the weight or ship a container without indicating the actual weight.
Include the sample information form in a sealable plastic bag to avoid it from becoming wet and illegible. Include any reusable supplies inside the shipping container on top of samples.

Sealing Shipping Containers
Seal the container with a tape that will assure the temperature control of the contents and disclose any tampering. Identify the seal with date, sample number, and mark of the collecting CSO/CSI.

Shipping, Transporting, or Delivering Samples
It is imperative that prior to shipping, transporting, or delivering samples, an individual must confirm that the laboratory can receive samples on a given day. Collected samples can be received Monday – Thursday during normal business hours.
Do not send any samples until the laboratory has been notified of your intentions to ship. Call NSIL at (228) 769-8964 and ask for the NSIL Sample Custodian to set up shipping and receiving dates. If the Sample Custodian is unavailable, leave a message including your name, telephone number, type of product being sampled, and the name of the company that the product was sampled from. This procedure should prevent unnecessary (1) time spent on collecting, receiving and disposing of incorrect samples, (2) expense (company's) for incorrect samples, and (3) expense (USDC's) for shipping incorrect samples.**If a lot inspection office or a company ships packages with dry ice, ensure that whoever signs the shipping document has completed the DOT Hazardous Shipper Training and has a copy of his or her current training certificate.** If samples are shipped overnight via a common carrier or U.S. Postal Service and on dry ice, the package label should include the words ``dry ice" and dry ice weight. It is imperative that the package is shipped priority overnight, for the next business day morning (i.e., Monday - Thursday). Do not ship for delivery on a weekend day or holiday.
Keep containers in the proper temperature environment until shipping to the laboratory and then ship as rapidly as possible to the following address:

ATTN: Sample Custodian
National Seafood Inspection Laboratory
3209 Frederic Street
Pascagoula, MS 39567
228-769-8964

Note: If you have any questions regarding these guidelines, call 228-769-8964 or send an e-mail to the Sample Custodian at the following addresses:
NSIL.Sample.Custodian@noaa.gov

Back to top