

spray to remove the breading material that may remain on any of them, being careful to avoid undue pressure or rubbing, and return each shrimp to the sieve. Remove the top sieve and drain on a slope for 2 minutes, then remove the shrimp to weighing pan. Rinse contents of the No. 20 sieve onto a flat pan and collect any particles other than breading (i.e., flesh and tail fins) and add to shrimp on balance pan and weigh.

(ii) Calculate percent shrimp material:

$$\text{Percent shrimp material} = \frac{\text{Weight of debreaded sample}}{\text{Weight of sample}} \times 100 + 2$$

(h) The method for determining percentage of shrimp material for composite units, specified in paragraph (c)(6) of this section, is as follows:

(1) *Equipment needed.* (i) Water bath (for example a 3-liter 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 picker.

(viii) Thermometer (immersion type) accurate to  $\pm 2$  °F.

(ix) Copper sulfate crystals ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ).

(2) *Procedure.* (i) Weigh all composite units in the sample while they are still hard frozen.

(ii) Place each composite unit individually in a water bath that is maintained at 63 °F–86 °F, and allow to remain until the breading becomes soft and can easily be removed from the still frozen shrimp material (between 10 seconds to 80 seconds for composite units held in storage at 0 °F). If the composite units were prepared using batters that are difficult to remove after one dipping, redip them for up to 5 seconds after the initial debreading and remove residual batter materials.

NOTE: Several preliminary trials may be necessary to determine the exact dip time required for “debreading” the composite units in a sample. For these trials only, a saturated solution of copper sulfate (1 pound of copper sulfate in 2 liters of tap water) is

necessary. The correct dip time is the minimum time of immersion in the copper sulfate solution required before the breading can easily be scraped off: *Provided*, That the “debreaded” units are still solidly frozen and only a slight trace of blue color is visible on the surface of the “debreaded” shrimp material.

(iii) Remove the unit from the bath; blot lightly with double thickness of paper toweling; and scrape off or pick out coating from the shrimp material with the spatula or nut picker.

(iv) Weigh all the “debreaded” shrimp material.

(v) Calculate the percentage of shrimp material in the sample, using the following formula:

$$\text{Percent shrimp material} = \frac{\text{Weight of debreaded shrimp sample}}{\text{Weight of sample}} \times 100$$

(i) *Label declaration.* Each of the ingredients used in the food shall be declared on the label as required by the applicable sections of parts 101 and 130 of this chapter.

[42 FR 14464, Mar. 15, 1977, as amended at 47 FR 11833, Mar. 19, 1982; 49 FR 10102, Mar. 19, 1984; 54 FR 24896, June 12, 1989; 58 FR 2884, Jan. 6, 1993; 63 FR 14035, Mar. 24, 1998]

#### § 161.176 Frozen raw lightly breaded shrimp.

Frozen raw lightly breaded shrimp complies with the provisions of § 161.175, except that it contains not less than 65 percent of shrimp material, as determined by the method prescribed in § 161.175 (g) or (h), as appropriate, and that in the name prescribed the word “lightly” immediately precedes the words “breaded shrimp”.

#### § 161.190 Canned tuna.

(a) *Identity.* (1) Canned tuna is the food consisting of processed flesh of fish of the species enumerated in paragraph (a)(2) of this section, prepared in one of the optional forms of pack specified in paragraph (a)(3) of this section, conforming to one of the color designations specified in paragraph (a)(4) of this section, in one of the optional packing media specified in paragraph (a)(5) of this section, and may contain one or more of the seasonings and flavorings specified in paragraph (a)(6) of this section. For the purpose of inhibiting the development of struvite

crystals, sodium acid pyrophosphate may be added in a quantity not in excess of 0.5 percent by weight of the finished food. It is packed in hermetically sealed containers and so processed by heat as to prevent spoilage. It is labeled in accordance with the provisions of paragraph (a)(8) of this section.

(2) The fish included in the class known as tuna fish are:

*Thunnus thynnus* (Linnaeus, 1758)—Northern bluefin tuna  
*Thunnus maccoyii* (Castelnau, 1872)—Southern bluefin tuna  
*Thunnus alalunga* (Bonnaterre, 1788)—Albacore  
*Thunnus atlanticus* (Lesson, 1830)—Blackfin tuna  
*Thunnus obesus* (Lowe, 1839)—Bigeye tuna  
*Thunnus albacares* (Bonnaterre, 1788)—Yellowfin tuna  
*Thunnus tonggol* (Bleeker, 1851)—Longtail tuna  
*Katsuwonus pelamis* (Linnaeus, 1758)—Skipjack tuna  
*Euthynnus alletteratus* (Rafinesque, 1810)—Spotted tunny  
*Euthynnus lineatus* Kishinouye, 1920—Black skipjack tuna  
*Euthynnus affinis* (Cantor, 1849)—Kawakawa  
*Allothunnus fallai* Serventy, 1948—Slender tuna  
*Auxis rochei* (Risso, 1810)—Bullet tuna  
*Auxis thazard* (Lacepede, 1800)—Frigate tuna

(3) The optional forms of processed tuna consist of loins and other striated muscular tissue of the fish. The loin is the longitudinal quarter of the great lateral muscle freed from skin, scales, visible blood clots, bones, gills, viscera and from the nonstriated part of such muscle, which part (known anatomically as the median superficial muscle) is highly vascular in structure, dark in color because of retained blood, and granular in form. Canned tuna is prepared in one of the following forms of pack, the identity of which is determined in accordance with the methods prescribed in paragraph (c)(2) of this section.

(i) Solid or solid pack consists of loins freed from any surface tissue discolored by diffused hemolyzed blood, cut in transverse segments to which no free fragments are added. In containers of 1 pound or less of net contents, such segments are cut in lengths suitable for packing in one layer. In containers of more than 1 pound net contents, such segments may be cut in lengths

suitable for packing in one or more layers of equal thickness. Segments are placed in the can with the planes of their transverse cut ends parallel to the ends of the can. A piece of a segment may be added if necessary to fill a container. The proportion of free flakes broken from loins in the canning operation shall not exceed 18 percent.

(ii) Chunk, chunks, chunk style consists of a mixture of pieces of tuna in which the original muscle structure is retained. The pieces may vary in size, but not less than 50 percent of the weight of the pressed contents of a container is retained on a ½-inch-mesh screen.

(iii) Flake or flakes consist of a mixture of pieces of tuna in which more than 50 percent of the weight of the pressed contents of the container will pass through a ½-inch-mesh screen, but in which the muscular structure of the flesh is retained.

(iv) Grated consists of a mixture of particles of tuna that have been reduced to uniform size, that will pass through a ½-inch-mesh screen, and in which the particles are discrete and do not comprise a paste.

(v) Any of the specified forms of pack of canned tuna may be smoked. Canned smoked tuna shall be labeled in accordance with the provisions of paragraph (a)(8)(v) of this section.

(4) Canned tuna, in any of the forms of pack specified in paragraph (a)(3) of this section, falls within one of the following color designations, measured by visual comparison with matte surface neutral reflectance standards corresponding to the specified Munsell units of value, determined in accordance with paragraph (a)(7) of this section.

(i) *White*. This color designation is limited to the species *Thunnus alalunga* (albacore), and is not darker than Munsell value 6.3.

(ii) *Light*. This color designation includes any tuna not darker than Munsell value 5.3.

(iii) *Dark*. This color designation includes all tuna darker than Munsell value 5.3.

(iv) *Blended*. This color designation may be applied only to tuna flakes specified in paragraph (a)(3)(iii) of this section, consisting of a mixture of tuna

flakes of which not less than 20 percent by weight meet the color standard for either white tuna or light tuna, and the remainder of which fall within the color standard for dark tuna. The color designation for blended tuna is determined in accordance with paragraph (a)(7) of this section.

(5) Canned tuna is packed in one of the following optional packing media:

(i) Any edible vegetable oil other than olive oil, or any mixture of such oils not containing olive oil.

(ii) Olive oil.

(iii) Water.

(6) Canned tuna may be seasoned or flavored with one or more of the following:

(i) Salt.

(ii) Monosodium glutamate.

(iii) Hydrolyzed protein declared in accordance with the applicable provisions of §101.22.

(iv) Spices or spice oils or spice extracts.

(v) Vegetable broth in an amount not in excess of 5 percent of the volume capacity of the container, such broth to consist of a minimum of 0.5 percent by weight of vegetable extractives and to be prepared from two or more of the following vegetables: Beans, cabbage, carrots, celery, garlic, onions, parsley, peas, potatoes, green bell peppers, red bell peppers, spinach, and tomatoes.

(vi) Garlic.

(vii) Lemon flavoring to be prepared from lemon oil and citric acid together with safe and suitable carriers for the lemon oil which are present at non-functional and insignificant levels in the finished canned food. When lemon flavoring is added, a safe and suitable solubilizing and dispersing ingredient may be added in a quantity not exceeding 0.005 percent by weight of the finished food. A substance used in accordance with this paragraph is deemed to be suitable if it is used in an amount no greater than necessary to achieve the intended flavor effect, and is deemed to be safe if it is not a food additive as defined in section 201(s) of the Federal Food, Drug, and Cosmetic Act (the act), or if it is a food additive as so defined, it is used in conformity with regulations established pursuant to section 409 of the act.

(viii) Edible vegetable oil or partially hydrogenated vegetable oil, excluding olive oil, used alone or in combination in an amount not to exceed 5 percent of the volume capacity of the container, with or without any suitable form of emulsifying and suspending ingredients that has been affirmed as GRAS or approved as a food additive to aid in dispersion of the oil, as seasoning in canned tuna packed in water.

(7) For determination of the color designations specified in paragraph (a)(4) of this section, the following method shall be used: Recombine the separations of pressed cake resulting from the method prescribed in paragraph (c)(2) of this section. Pass the combined portions through a sieve fitted with woven-wire cloth of ¼-inch mesh complying with the specifications for such cloth set forth in "Official Methods of Analysis of the Association of Official Analytical Chemists," 13th Ed. (1980), Table 1, "Nominal Dimensions of Standard Test Sieves (U.S.A. Standard Series)," under the heading "Definitions of Terms and Explanatory Notes," which is incorporated by reference. Copies may be obtained from the AOAC INTERNATIONAL, 481 North Frederick Ave., suite 500, Gaithersburg, MD 20877, or may be examined at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html). Mix the sieved material and place a sufficient quantity into a 307 × 113 size container (bearing a top seam and having a false bottom approximately ½-inch deep and painted flat black inside and outside) so that after tamping and smoothing the surface of the sample the material will be ⅜-inch to ¼-inch below the top of the container. Within 10 minutes after sieving through the ¼-inch mesh woven-wire cloth, determine the Munsell value of sample surface.

(i) Determine the Munsell value of the sample surface so prepared. The following method may be used, employing an optical comparator, consisting of a lens and prism system which brings two beams of light, reflected

from equal areas of sample surface and standard surface, respectively, together, within an eyepiece, so as to show an equally divided optical field. The scanned areas of sample and standard surface are not smaller than 2 square inches. Light reaching the eye is rendered sufficiently diffuse, by design of eyepiece and comparator, so that detail of the sample surface will remain undefined, to a degree such as to avoid visual confusion in observation of a match of over-all intensity of reflected light. The eyepiece contains a color filter centering at a wavelength between 550 m $\mu$  and 560 m $\mu$ . The filter does not pass appreciable visible radiation of wavelengths below 540 m $\mu$  or above 570 m $\mu$ . The passed wavelength band is of a monochromaticity sufficient to cause a sample and a neutral standard of equal reflectance to appear of the same hue. The comparator is rigidly mounted on a vertical stand attached to a base in which arrangement is provided for securely and accurately positioning two cans of size 307  $\times$  113 in the two fields of view. Mounted on the base are two shaded lamps, which direct the center of their beams of light at about a 45° angle to the plane of the sample and standard surfaces. The lamps are so positioned that light from one bears mainly upon the sample surface and light from the other mainly on the standard surface, and are so placed in relation to sample and standard that no shadows, as from the can rims, appear in the fields of view. The lamps are strong enough to furnish adequate and convenient illumination through eyepiece and filter. Means are provided to alter the light intensity of one lamp in relation to the other, as may conveniently be achieved by using a 100-watt tungsten filament bulb in one lamp and using, in the other, a similar 150-watt bulb connected with the power source through a suitable rheostat. The stand is equipped with non-glossy black curtains on the side of the observer, to exclude variation in extraneous light reflected from the person of the observer.

(ii) To adjust the comparator, place a pair of matte surface standards of Munsell value 5.3, mounted as described in paragraph (a)(7)(iv) of this section, in position in the comparator

base, and adjust the intensity of the variable lamp until the two halves of the optical field, viewed through the eyepiece, are of equal brightness. Then remove one of the standards and replace it with the prepared sample. Without altering any other adjustments, observe through the eyepiece whether the sample appears lighter or darker than the standard. In case of examination of albacore designated "white", conduct the procedure using standards of Munsell value 6.3.

(iii) The standards with which comparisons are made are essentially neutral matte-finish standards, equivalent in luminous reflectance of light of 555 $\mu$  wavelength to 33.7 percent of the luminous reflectance of magnesium oxide (for Munsell value 6.3) and 22.6 percent of the luminous reflectance of magnesium oxide (for Munsell value 5.3), 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," Vol. 33, page 406 (1943), which is incorporated by reference. Copies are available from the Center for Food Safety and Applied Nutrition (HFS-150), Food and Drug Administration, 5100 Paint Branch Pkwy., College Park, MD 20740, or available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(iv) These standards shall be cut in circles 3 $\frac{1}{4}$  inches in diameter and shall be mounted in 307  $\times$  113 size containers, bearing a top seam and painted flat black inside and outside, so that the surfaces of the standards are  $\frac{3}{16}$  inch below the top of the containers in which they are mounted.

(v) In the case of blended tuna, the foregoing method shall be varied by first separating the tuna flakes of the two different colors before passing them through the  $\frac{1}{4}$ -inch mesh sieve, then proceeding with each portion separately for the determination of its color value, employing, if necessary, a

sample container with false bottom greater than ½ inch deep.

(8)(i) The specified names of the canned tuna for which definitions and standards of identity are prescribed by this section, except where water is the packing medium or where the tuna is smoked, are formed by combining the designation of form of pack with the color designation of the tuna; for example, "Solid pack white tuna", "Grated dark tuna", etc. In the case of blended tuna, there shall be used both applicable color designations of the blended flakes, in precedence determined in accordance with the predominating portion found in the container; for example, "Blended white and dark tuna flakes", "Blended dark and light tuna flakes".

(ii) The specified name of canned tuna when water is used as the packing medium is formed as described in paragraph (a)(8)(i) of this section, followed by the words "in water"; for example, "Grated light tuna in water".

(iii) When the packing medium is vegetable oil or olive oil, the label shall bear the name of the optional packing medium used, as specified in paragraph (a)(5) of this section, preceded by the word "in" or the words "packed in". In case of the optional ingredient specified in paragraph (a)(5)(i) of this section, the name or names of the oil used may be stated, or the general term "vegetable oil" may be used.

(iv) In case solid pack tuna is packed in olive oil, the designation "Tonno" may also appear.

(v) In case any of the specified forms of canned tuna are smoked, the word "smoked" shall appear as a part of the name on the label; for example, "Smoked light tuna flakes".

(vi) Where the canned tuna contains one or more of the ingredients provided for in paragraph (a)(6) of this section, the label shall bear the statement "Seasoned with \_\_\_\_\_", the blank being filled in with the name or names of the ingredient or ingredients used, except that if the ingredient designated in paragraph (a)(6)(v) of this section is used, the blank shall be filled in with the term "vegetable broth", and if the ingredients designated in paragraph (a)(6)(viii) of this section are used, the blank may be filled in with the term

"oil", and if the ingredient designated in paragraph (a)(6)(iv) of this section is used alone, the label may alternatively bear either the statement "spiced" or the statement "with added spice"; and if salt is the only seasoning ingredient used, the label may alternatively bear any of the statements "salted", "with added salt", or "salt added". If the flavoring ingredients designated in paragraph (a)(6)(vii) of this section are used, the words "lemon flavored" or "with lemon flavoring" shall appear as part of the name on the label; for example, "lemon flavored chunk light tuna". Citric acid and any optional solubilizing and dispersing agent used as specified in paragraph (a)(6)(vii) of this section in connection with lemon flavoring ingredients or emulsifying and suspending ingredients used as specified in paragraph (a)(6)(viii) of this section shall be designated on the label by their common or usual name.

(vii) Where the canned tuna contains the optional ingredient sodium acid pyrophosphate as provided in paragraph (a)(1) of this section, the label shall bear the statement "pyrophosphate added" or "with added pyrophosphate".

(viii) Wherever the name of the food appears on the label so conspicuously as to be easily seen under customary conditions of purchase, the names of the optional ingredients used, as specified in paragraphs (a)(8)(iii), (vi), and (vii) of this section (except if lemon flavoring is added, this subparagraph applies only to the terms "lemon flavored" or "with lemon flavoring", not to the constituent ingredients of that flavoring or to any optional solubilizing or dispersing ingredient used in connection with lemon flavoring ingredients), shall immediately and conspicuously precede or follow such name without intervening, written, printed, or graphic matter except that the common name of the species of tuna fish may so intervene; but the species name "albacore" may be employed only for canned tuna of that species which meets the color designation "white" as prescribed by paragraph (a)(4)(i) of this section.

(ix) Statements of optional ingredients present required by paragraph

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(a)(8)(vi) of this section, but not subject to the provisions of paragraph (a)(8)(viii) of this section shall be set forth on the label with such prominence and conspicuousness as to render them likely to be read and understood by the ordinary individual under customary conditions of purchase.

(b) [Reserved]

(c) *Fill of container.* (1) The standard of fill of container for canned tuna is a fill such that the average weight of the pressed cake from 24 cans, as determined by the method prescribed by paragraph (c)(2) of this section, is not less than the minimum value specified for the corresponding can size and form of tuna ingredient in the following table:

I. Can size and form of tuna ingredient	II. Minimum value for weights of pressed cake (average of 24 cans) (in ounces)
211×109:	
Solid .....	2.25
Chunks .....	1.98
Flakes .....	1.98
Grated .....	2.00
307×113:	
Solid .....	4.47
Chunks .....	3.92
Flakes .....	3.92
Grated .....	3.96
401×206:	
Solid .....	8.76
Chunks .....	7.68
Flakes .....	7.68
Grated .....	7.76
603×408:	
Solid .....	43.2
Chunks .....	37.9
Flakes .....	37.9
Grated .....	38.3

If the can size in question is not listed, calculate the value for column II as follows: From the list select as the comparable can size that one having nearest the water capacity of the can size in question, multiply the value listed in column II for the same form of tuna ingredient by the water capacity of the can size in question, and divided by the water capacity of the comparable can size. Water capacities are determined by the general method provided in §130.12(a) of this chapter. For the purposes of this section, cans of dimensions 211×109 shall be deemed to have a water capacity at 68 °F of 3.55 avoirdupois ounces of water; cans of di-

mensions 307×113, a water capacity of 7.05 avoirdupois ounces of water; cans of dimensions 401×206, a water capacity of 13.80 avoirdupois ounces of water; and cans of dimensions 603×408, a water capacity of 68.15 avoirdupois ounces of water.

(2) The methods referred to in paragraph (c)(1) of this section for determining the weight of the pressed cake and referred to in paragraph (a)(3)(i) of this section for determining the percent of free flakes and the percent of pieces that pass through a ½-inch-mesh sieve are as follows:

(i) Have each of the 24 cans and contents at a temperature of 75 °F within ±5 °F. Test each can in turn as follows:

(ii) Cut out the top of the can (code end), using a can opener that does not remove nor distort the double seam.

(iii) With the cut top held on the can contents, invert the can, and drain the free liquid by gentle finger pressure on the cut lid so that most of the free liquid drains from the can.

(iv) With the cut lid still in place, cut out the bottom of the can with the can opener, then turn the can upright and remove the cut can top (code end). Scrape off any adhering tuna particles into the tuna mass in the can.

(v) Place the proper size of press cylinder as provided in paragraph (c)(3)(i) of this section in a horizontal position on a table; then, using the cut bottom of the can as a pusher, gently force the can contents from the can into the cylinder so that the flat side of the can contents lies in contact with the bottom of the cylinder. Remove the bottom of the can that was used as the pusher and scrape any adhering particles from the can body and bottom of the can, and put them in the cylinder.

(vi) Place the cylinder plunger on top of the can contents in the cylinder. Remove the eyebolt and put the cylinder and plunger in position on the press (paragraph (c)(3)(iii) of this section).

(vii) Begin the operation of the press and as soon as liquid is observed coming from the cylinder start timing the operation. Apply pressure to the plunger slowly and at a uniform rate, so that a full minute is used to reach a pressure of 384 pounds per square inch of plunger face in contact with the can

contents. Hold this pressure for 1 additional minute and then release the pressure and disengage the plunger from the press shaft. Tip the press cylinder so that any free liquid is drained out.

(viii) Remove press cylinder with plunger from the press, insert eyebolt in plunger and withdraw it from the cylinder. Loosen the pressed cake from the cylinder with a thin blade and remove the entire pressed cake as gently as possible, to keep the mass in a single cake during this operation. Place the pressed cake and any pieces that adhered to the plunger and cylinder in a tared receiving pan and determine the weight of the pressed material.

(ix) For cans larger than 401×206, cut out the top of the can and drain off free liquid from the can contents as in operations described in paragraphs (c)(2)(ii) and (iii) of this section. Determine the gross weight of the can and remaining contents. Using a tared core cutter as provided for in paragraph (c)(3)(ii) of this section, cut vertically a core of the drained material in the can. Determine the weight of the core. With a thin spatula transfer the core to the pressing cylinder for 401×206 cans. Determine the weight of the pressed cake as in the operations described in paragraphs (c)(2)(v) through (viii) of this section. Remove the remaining drained contents of the can, reserving the contents for the determination of free flakes (paragraph (c)(2)(xi) of this section), weigh the empty can, and calculate the weight of the total drained material. Calculate the weight of pressed cake on the entire can basis by multiplying the weight of the pressed cake of the core by the ratio of the weight of the drained contents of the can to the weight of the core before pressing.

(x) Repeat the determination of weight of pressed cake on the remainder of the 24 cans and determine the average weight of pressed cake for the purpose of paragraph (c)(1) of this section.

(xi) Determination of free flakes: If the optional form of tuna ingredient is solid pack, determine the percent of free flakes. Any flakes resulting from the operations described in this paragraph (c)(2)(xi) or in other parts of this

paragraph are to be weighed as free flakes. Only fragments that were broken in the canning procedure are considered to be free flakes. If the can is of such size that its entire drained contents were pressed as described in paragraphs (c)(2)(i) to (viii) of this section, inclusive, examine the pressed cake carefully for free flakes. Using a spatula, scrape free flakes gently from the outside of the cake. Weigh the aggregate free flakes that were broken from the loin segments in the canning procedure and calculate their percentage of the total weight of pressed cake. If the can is of such size that a core was cut for pressing as described in paragraph (c)(2)(ix) of this section, make the examination for free flakes on a weighed portion of the drained material remaining after the core was removed. The weight of the portion examined should approximately equal the weight of the core before pressing. Calculate the weight of the free flakes that were broken from the loins in the canning procedure as a percentage of the weight of the portion examined.

(xii) Determination of particle size: If the optional form of tuna ingredient is chunks, flakes, or grated, the pressed cake resulting from the operations described in paragraphs (c)(2)(i) to (ix) of this section, inclusive, is gently separated by hand, care being taken to avoid breaking the pieces. The separated pieces are evenly distributed over the top sieve of the screen separation equipment described in paragraph (c)(3)(iv) of this section. Beginning with the top sieve, lift and drop each sieve by its open edge three times. Each time, the open edge of the sieve is lifted the full distance permitted by the device. Combine and weigh the material remaining on the three top sieves (1½-inch, 1-inch, ½-inch screens), and determine the combined percentage retention by weight in relation to the total weight of the pressed cake.

(3)(i) The press cylinder and plunger referred to in paragraph (c)(2) of this section are made of stainless steel. The press cylinders are made with a lip to facilitate drainage of the liquid. Plungers have a threaded center hole, about half as deep as the thickness of the

plunger, for receiving a ringbolt to assist in removing the plunger from the press cylinder. Dimensions for press cylinders and plungers are as follows:

*For can size 211×109*

Press cylinder:  
 Inside depth, approximately 3¾ inches.  
 Inside diameter, 2.593 inches.  
 Wall thickness, approximately ⅜ inch.  
 Plunger:  
 Thickness, approximately 1 inch.  
 Diameter, 2.568 inches.

*For can size 307×113*

Press cylinder:  
 Inside depth, approximately 4 inches.  
 Inside diameter, 3.344 inches.  
 Wall thickness, approximately ⅜ inch.  
 Plunger:  
 Thickness, approximately 1¼ inches.  
 Diameter, 3.319 inches.

*For can size 401×206*

Press cylinder:  
 Inside depth, approximately 4⅞ inches.  
 Inside diameter, 3.969 inches.  
 Wall thickness, approximately ½ inch.  
 Plunger:  
 Thickness, approximately 1¼ inches.  
 Diameter, 3.944 inches.

For can sizes where the diameter is greater than 401, the core cutter described in paragraph (c)(3)(ii) of this section shall be used and the resulting core pressed in the press cylinder for can size 401×206. For can sizes differing from those specified in this paragraph (c)(3)(i), special press cylinders and plungers may be used. Special press less than the outside diameters, at the cylinders have inside diameters ¼-inch double seam, for the can sizes for which the cylinders are used; plunger diameters are 0.025-inch less than the inside diameters of the press cylinders.

(ii) The core cutter referred to in paragraph (c)(2) (ix) and (xi) of this section and paragraph (c)(3)(i) of this section is made from a previously sealed 300×407 can. The cover, including the top seam, is cut out. The edge is smoothed and sharpened. A small hole to permit passage of air is made in the bottom.

(iii) The hydraulic press referred to in paragraph (c)(2) (vi) to (x) of this section, inclusive, is made by so mounting a hydraulic jack, in a strong frame, that it will press horizontally against the center of the plunger in the

press cylinder used. The frame is so braced that it does not change shape when pressure is applied. The gauge on the hydraulic jack is so calibrated that it will indicate, for the plunger being used, when the plunger is pressing against the contents of the press cylinder with a pressure of 384 pounds per square inch of plunger face.

(iv) The sieving device referred to in paragraph (c)(2)(xii) of this section consists of three sieves, each approximately 1 foot square, loosely mounted, one above the other, in a metal frame. The mesh in the top sieve complies with the specifications for 1½-inch woven-wire cloth as prescribed in paragraph (a)(7) of this section. The meshes in the sieves below comply with similar specifications for 1-inch and ½-inch woven-wire cloth as set forth in the same publication. The sides of each sieve are formed, in a raised rim, from ¾-inch × ¼-inch metal strap. The frame has tracks made of ⅜-inch angle metal to support each sieve under each side. The tracks are so positioned as to permit each sieve a free vertical travel of 1¾ inches.

(4) If canned tuna falls below the applicable standard of fill of container prescribed in paragraph (c)(1) of this section, the label shall bear the general statement of substandard fill provided in §130.14(b) of this chapter, in the manner and form therein specified.

[42 FR 14464, Mar. 15, 1977, as amended at 47 FR 11833, Mar. 19, 1982; 49 FR 10102, Mar. 19, 1984; 54 FR 24896, June 12, 1989; 55 FR 45797, Oct. 31, 1990; 56 FR 6263, Feb. 15, 1991; 58 FR 2884, Jan. 6, 1993; 61 FR 14480, Apr. 2, 1996; 63 FR 14035, Mar. 24, 1998; 66 FR 56035, Nov. 6, 2001]

## PART 163—CACAO PRODUCTS

### Subpart A—General Provisions

Sec.  
 163.5 Methods of analysis.

### Subpart B—Requirements for Specific Standardized Cacao Products

163.110 Cacao nibs.  
 163.111 Chocolate liquor.  
 163.112 Breakfast cocoa.  
 163.113 Cocoa.  
 163.114 Lowfat cocoa.  
 163.117 Cocoa with dioctyl sodium sulfosuccinate for manufacturing.