



NEW YORK STATE
DEPARTMENT OF AGRICULTURE AND MARKETS
DIVISION OF FOOD SAFETY AND INSPECTION
10B AIRLINE DRIVE
ALBANY, NY 12235

CIRCULAR 1032

**Rules and Regulations
Relating to**

FISH PROCESSING AND SMOKING ESTABLISHMENTS

Article 17 of the Agriculture and Markets Law
Part 262 of Title 1 of the
Official Compilation of Codes, Rules and Regulations
of the State of New York
Revised as of May 16, 1990

1 NYCRR PART 262
FISH PROCESSING AND SMOKING ESTABLISHMENTS

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Section 262.1 Definitions. The definitions contained in section 261.1 of this Title and section 198 of the Agriculture and Markets Law shall be applicable to such terms when used in this Part. The following definitions shall also apply:

- (a) "Fish" means any kind of fresh or salt water fish, or seafood, without limitation.
- (b) "Seafood" means all edible aquatic organisms other than finfish and shall include, but not be limited to, shellfish (crustaceans and mollusks) such as shrimp, lobsters, crabs, clams, mussels, oysters, scallops and snails.
- (c) "Processed Fish" means fish that has been cured, salted, marinated, dried, or smoked as food for human consumption. This term shall include smoked fish, salted fish, salt cured/air dried fish, marinated fish, pickled fish, and fermented fish, but shall not include processed fish produced in accordance with Part 277 of this Title, "Rules and Regulations Relating to Thermally Processed Low-Acid Foods Packaged in Hermetically Sealed Containers," or in accordance with title 21 of the Code of Federal Regulations Part 114, "Acidified Foods," (pages 134-140) (revised as of April 1, 1989) which is incorporated by reference herein. Copies of the Code of Federal Regulations may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402 and the material incorporated by reference herein is available for public inspection and copying at the offices of the New York State Department of Agriculture and Markets, Division of Food Inspection Services, Capital Plaza, One Winners Circle, Albany, New York 12235 (see reference note *).
- (d) "Smoked fish" means fish which, for the prime purpose of taking on the flavor and/or color of smoke, has been subjected to the direct action of smoke or smoke flavor from the burning of wood, sawdust, or similar burning material or immersed in or sprayed with a smoke-flavored solution.
- (e) "Hot process smoked fish" means a smoked fish that has been produced by subjecting it to heat during smoke processing.
- (f) "Cold process smoked fish" means a smoked fish that has been produced by subjecting it to smoke at a temperature where the product undergoes only incomplete heat coagulation of protein.

(g) "Loin muscle" means the longitudinal quarter of the great lateral muscle freed from skin scales, visible blood clots, bones, gills, and viscera and from the nonstriated part of such muscle, which part is known anatomically as the median superficial muscle.

(h) "Water phase salt" means the percent salt (sodium chloride) in the finished product as determined by the method described in the "Official Methods of Analysis of the Association of Official Analytical Chemists," 14th Edition (1984), sections 18.034 (page 335) and 18.035 (page 335), under "Volumetric Method - Final Action," and sections 50.027 (page 1006), 50.030(b) (page 1006), and 50.003 (page 1002) referenced therein, all of which are incorporated by reference herein, multiplied by 100 and divided by the percent salt (sodium chloride) plus the percent moisture in the finished product, as determined by the method described in the AOAC, 14th Edition (1984), section 18.023 (pages 333-334), under "Solids (Total) in Seafoods, Gravimetric Method - Final Action, For All Marine Products Except Raw Oysters," which section is incorporated by reference herein. Copies of said material may be obtained from the Association of Official Analytical Chemists, Inc., 1111 North Nineteenth St., Suite 210, Arlington, Virginia 22209 and such material is available for public inspection and copying at the offices of the New York State Department of Agriculture and Markets, Division of Food Inspection Services, Capital Plaza, One Winners Circle, Albany, New York 12235 (see reference note *).

(i) "Sodium nitrite content" means the concentration, in parts per million, of sodium nitrite in the loin muscle of the finished product as determined by the method described in the "Official Methods of Analysis of the Association of Official Analytical Chemists," 14th Edition (1984) sections 24.044 (page 436) and 24.045 (page 436) under "Nitrites in Cured Meat Colorimetric Method - First Action," which sections are incorporated by reference herein and are available as set forth in subdivision (g) of this section.

(j) "Competent processing authority" means a qualified person who has expert knowledge acquired through appropriate training and experience in the production of processed fish.

Section 262.2 Current good manufacturing practices.

Sections 261.3 through 261.8 of this Title, relating to human foods, current good manufacturing practices, shall apply in determining whether the facilities, practices and controls used in manufacture, processing, packing or holding of fish are in conformance with or are operated or administered in conformity with good manufacturing practices to assure that processed fish for human consumption is safe and has been prepared, packed, and held under sanitary conditions. This Part sets forth additional requirements for processed fish and smoked fish establishments.

Section 262.3 Raw materials.

(a) Fresh fish received shall be inspected and adequately washed before processing. Only sound, wholesome fish free from adulteration and organoleptically detectable spoilage shall be processed.

(b) Every lot of fish that has been partially processed in another plant, including frozen fish, shall be adequately inspected, and only clean wholesome fish shall be processed.

(c) Fresh or partially processed fish, except those to be immediately processed, shall be iced or otherwise refrigerated to an internal temperature of 38 degrees Fahrenheit or below upon receipt and shall be maintained at that temperature until the fish are to be processed.

(d) All fish received in a frozen state shall be either thawed promptly and processed, or stored at a temperature that will maintain it in a frozen state.

(e) The defrosting of frozen fish shall be conducted in a sanitary manner and by such methods that the wholesomeness of the fish is not adversely affected.

(f) After thawing, fish shall be washed thoroughly with a vigorous potable water spray or a continuous water flow system.

(g) All fish shall be free of viscera prior to processing except:

- (1) small species of fish, such as anchovies, and herring sprats, provided they are processed in an adequate fashion and will contain a water phase salt level of at least 10 percent, a water activity below .85, or a pH of 4.6 or less; and
- (2) fermented fish, provided they are processed in an adequate fashion and will contain a water phase salt level of at least 17 percent; and
- (3) fully cooked seafoods.

(h) The evisceration of fish shall be conducted in an area that is segregated and separate from other processing operations. The evisceration shall be performed with minimal disturbance of the intestinal tract contents. The fish, including the body cavity, shall be washed thoroughly with a vigorous spray or a continuous water flow system following evisceration.

Section 262.4 Operations and controls for processed fish.

(a) All operations in the receiving, holding, processing and packaging of processed fish shall be conducted utilizing clean and sanitary methods and shall be conducted as rapidly as practicable and at temperatures that will not cause any material increase in bacterial or other microorganic content or any deterioration or contamination of such processed fish.

(b) All processed fish, except vacuum packaged or modified atmosphere packaged smoked fish produced pursuant to section 262.5 of this Part, shall be produced pursuant to a scheduled process established by a competent processing authority. A copy of said scheduled process or the process set forth in section 262.5 of this Part which is utilized shall be available for examination in each fish processing establishment. Each scheduled process shall identify the name and address of the competent processing authority by whom it was established. The scheduled process shall include processing methods, procedures and controls for each product, as well as packaging and labeling requirements. Whenever a deviation in a scheduled process, or in a process set forth in section 262.5 occurs, as disclosed by records, processor check or otherwise, the processor shall destroy all product affected by said deviation or hold it for a determination as to whether it is adulterated within the meaning of section 200 of the Agriculture and Markets Law. Notwithstanding anything contained in this Part, the production of processed fish pursuant to a scheduled process or pursuant to section 262.5 of this Part shall not preclude said product, if the facts warrant such action, from being deemed adulterated or misbranded pursuant to sections 200 and 201 of the Agriculture and Markets Law or any other applicable statute or regulation.

(c) All processed fish shall be distributed and sold at temperatures that do not exceed 38 degrees Fahrenheit, except that:

- (1) processed fish that have a water phase salt level of at least 17 percent shall not require refrigerated storage; and
- (2) processed fish which contain a water phase salt level of at least 10 percent, a water activity of less than .85, or a pH of 4.6 or lower may be distributed or sold at refrigerated temperatures that do not exceed 45 degrees Fahrenheit.

(d) Thermometers or other temperature monitoring devices accurate to within plus or minus 2 degrees Fahrenheit shall be installed in coolers, freezers, vehicles, or other refrigerated areas where fish or processed fish are processed, held or displayed.

(e) Unless produced pursuant to the provisions of section 262.5 of this Part, processed fish shall be vacuum packaged or modified atmosphere packaged only if produced pursuant to a scheduled process which specifies vacuum packaging or modified atmosphere packaging.

(f) The vacuum packaging or modified atmosphere packaging of processed fish shall be conducted only within the facilities in which the product was produced.

(g) Processed fish to be vacuum packaged or modified atmosphere packaged shall be analyzed chemically with sufficient frequency to assure that the required water phase salt and sodium nitrite is obtained in every fish and that other chemical additives are present at acceptable levels.

Section 262.5 Processing operations for vacuum packaged or modified atmosphere packaged smoked fish. Unless otherwise provided by a scheduled process, the following additional requirements shall apply to vacuum packaged or modified atmosphere packaged smoked fish.

(a) Brining of fish for smoking shall be carried out so that the temperature of the brine does not exceed 60 degrees Fahrenheit at the start of brining. If the brining time exceeds 4 hours, the brining shall take place in a refrigerated area of 38 degrees Fahrenheit or lower. For dry salting, the fish shall be returned to a refrigerated area of 38 degrees Fahrenheit or lower immediately after the salting step.

(b) Brining tanks shall be cleaned and sanitized prior to use. Different species of fish shall not be mixed in the same tank, and brines shall not be reused unless there is an adequate process available to return the brine to an acceptable micro-biological level.

(c) Fish to be smoked shall be arranged without over-crowding or touching each other within the smokehouse oven or chamber to allow for uniform smoke absorption, heat exposure, and dehydration.

(d) Liquid smoke, generated smoke, or a combination of liquid smoke and generated smoke shall be applied to all surfaces of fish to be smoked. Liquid smoke may be applied to the product prior to, at the commencement of or during the process while generated smoke shall be applied to the fish during the first half of the process and longer if necessary. If a combination of liquid smoke and generated smoke is used, the procedures for liquid smoke shall be followed and the generated smoke may be applied at any stage of the process.

(e) Vacuum packaged or modified atmosphere packaged hot process smoked fish shall be produced by a controlled process that utilizes a monitoring system such as calibrated probes or dial thermometers to assure that all products reach the required temperature. The temperature readings shall be obtained by inserting an accurate temperature indicating device into the thickest flesh portion of three or more of the largest fish in the smokehouse compartment. The coldest reading thus obtained shall be recorded in a fish smoking record as being the internal temperature of fish being smoked. The internal temperature of fish being smoked shall be obtained and recorded with the time taken at least three times during the operation of heating each load or batch of fish to assure that the required heat treatment has been accomplished. Each batch of smoked fish shall be identified as to the specific oven load, product temperature obtained, and date processed. The temperature monitoring system shall be accurate to within 2 degrees Fahrenheit.

(f) Vacuum packaged or modified atmosphere packaged hot process smoked fish shall be produced by a controlled process whereby each fish or fish portion shall be heated to an internal temperature of 145 degrees Fahrenheit or higher and maintained at 145 degrees Fahrenheit or higher for 30 minutes or longer. The smoked fish shall be brined to contain at least 3.5 percent water phase salt in the loin muscle of the finished product, except that vacuum packaged or modified atmosphere packaged hot process smoked fish which contain 100-200 parts per million sodium nitrite shall contain 3.0 percent water phase salt in the loin muscle of the finished product when processed in this fashion. Vacuum packaged or modified atmosphere packaged seafood processed in this fashion shall be brined to contain 3.5 percent water phase salt in the flesh portion of the product.

(g) Vacuum packaged or modified atmosphere packaged cold process smoked fish shall be produced by one of the following processes:

(1) Vacuum packaged or modified atmosphere packaged cold process smoked fish shall be produced by a controlled process that utilizes a temperature monitoring system positioned within the smoking chamber and results in a temperature that shall not exceed 90 degrees Fahrenheit during the drying and smoking period, which period shall not exceed 20 hours. The smoked fish shall be brined to contain at least 3.5 percent water phase salt in the loin muscle of the finished product except that vacuum packaged or modified atmosphere packaged cold process smoked fish which contain 100-200 parts per million sodium nitrite shall contain at least 3.0 percent water phase salt in the loin muscle of the finished product when processed in this fashion; or

(2) Vacuum packaged or modified atmosphere packaged cold process smoked fish shall be produced by a controlled process that utilizes a temperature monitoring system positioned within the smoking chamber and results in a temperature that does not exceed 50 degrees Fahrenheit during the drying and smoking period, which period shall not exceed 24 hours. The smoked fish shall be brined to contain at least 3.5 percent water phase salt in the loin muscle of the finished product except that vacuum packaged or modified atmosphere packaged cold process smoked fish which contain 100-200 parts per million sodium nitrite shall contain at least 3.0 percent water phase salt in the loin muscle of the finished product when processed in this fashion; or

(3) Vacuum packaged or modified atmosphere packaged cold process smoked sablefish shall be produced by a controlled process that utilizes a temperature monitoring system positioned within the smoking chamber and results in a temperature that shall not exceed 120 degrees Fahrenheit during the drying and smoking period, which period shall not exceed 6 hours. The smoked fish shall be brined to contain at least 3.5 percent water phase salt in the loin muscle of the finished product except that vacuum packaged or modified atmosphere packaged cold process smoked sablefish

which contain 100-200 parts per million sodium nitrite shall contain at least 3.0 percent water phase salt in the loin muscle of the finished product when processed in this fashion.

(h) Vacuum packaged or modified atmosphere packaged smoked fish shall be immediately cooled after processing to 50 degrees Fahrenheit or below within 5 hours and further cooled to a temperature of 38 degrees Fahrenheit or below within 12 hours after processing.

Section 262.6 Exemptions.

Finnan haddie, smoked cod fillets, smoked scotch kippers and any other smoked fish which are cooked before being consumed need not be processed pursuant to the processing requirements of sections 262.4 (b)(c)(d) and 262.5 of this Part. However, such products shall be processed pursuant to the good manufacturing practices set forth in section 262.2 of this Part, and shall be clearly marked or labeled indicating that they are to be cooked prior to consumption.

Section 262.7 Records.

(a) Every operator of a fish processing plant shall keep a record of every transaction involving the sale and distribution of processed fish. Such records, in addition to the names and addresses of the persons or firms involved in the transaction, shall contain the code numbers of each lot involved.

(b) Fish processing records shall be legibly written in English and shall identify the processing procedure, the product processed, process time, temperature and the results of the chemical examination described in subdivision (c) of this section, together with the identifying lot code, the number of containers per coding interval, the size of the containers coded and the year, day and period each lot was packed.

(c) Records shall be maintained for the chemical examination of finished product for the purpose of validating the water phase salt and sodium nitrite requirements set forth in section 262.5 (f) and (g) of this Part or which are required by a scheduled process established pursuant to section 262.4 (b) of this Part.

(d) All data and pertinent information relative to the scheduled process or process set forth in section 262.5 of this Part used to produce processed fish shall be made readily available to New York State Department of Agriculture and Markets personnel upon request.

Section 262.8 Packaging and labeling of processed fish.

(a) The finished product shall be handled only with clean, sanitized hands, gloves, or utensils. Manual manipulation of the finished product shall be kept to a minimum.

(b) The finished product shall be stored and handled in a segregated area apart from unprocessed fish and equipment used for unprocessed fish.

(c) Shipping containers, retail packages, and shipping records relating to processed fish shall indicate, by appropriate labeling, the perishable nature of the product. Frozen product shall clearly indicate that the product shall remain frozen until thawed at refrigerated temperatures and shall not be refrozen. Refrigerated product shall clearly and conspicuously state "Keep Refrigerated at 38 degrees Fahrenheit or Below".

(d) Each container of processed fish shall be marked with an identifying code which shall be permanently visible to the naked eye. Where the container does not permit the code to be embossed or inked, the label may be legibly perforated or otherwise marked, provided that in all instances the label shall be securely affixed to the product container. The required identification shall identify in code the establishment where packed, the product contained therein, the year packed, the day packed and the period during which packed. The packing period code shall be changed with sufficient frequency to enable ready identification of lots during their sale and distribution.

Section 262.9 Sale of processed fish. No person shall sell, offer or expose for sale any processed fish in New York State unless such processed fish has been processed and labeled in accordance with the requirements of this Part and any other applicable statutes or regulations.

Section 262.10 Severability. If any provision of this Part or the application thereof to any person or circumstances is adjudged invalid by a court of competent jurisdiction, such judgement shall not affect or impair the validity of the other provisions of this Part or the application thereof to other persons and circumstances.

reference note *- Please mail requests for information referenced to New York State Department of Agriculture and Markets, Division of Food Inspection Services, 10B Airline Drive, Albany, New York 12235