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# CITY OF CHICAGO

## RULES

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### **Sanitation Practices in Food Establishments**

### **“The Food Code”**

**Last Updated: December 4, 2014**



**HEALTHY  
CHICAGO**

CHICAGO DEPARTMENT OF PUBLIC HEALTH

BY AUTHORITY VESTED IN THE BOARD OF HEALTH UNDER 7-38 AND PURSUANT TO GENERAL PROVISIONS OF THE MUNICIPAL CODE OF THE CITY OF CHICAGO, THE FOLLOWING RULES REGARDING SANITATION PRACTICES IN FOOD ESTABLISHMENTS ARE ADOPTED HEREIN.

By Order of the President of the Board of Health:

Signed:   
Carolyn Lopez, M.D.

Date: May 4, 2016

Adopted: 11/19/14  
Published: 11/24/14  
Effective: 12/4/14

**Chicago Board of Health Rules and Regulations  
Pertaining to Sanitation Practices in Food Establishments  
"The Food Code"**

**Definitions.**

**"Acceptable product list"** means a list of foods, acceptable to the regulatory authority, which because of their characteristics will present a barrier to the growth of *Clostridium botulinum*.

**"Barrier"** means a safety factor of a physical, biological, or chemical nature which inhibits or minimizes the growth of micro-organisms including those which may be infectious or toxigenic.

**"Comminuted"** means reduced in size by methods including chopping, flaking, grinding, or mincing. It includes fish or meat products that are reduced in size and restructured or reformulated such as gefilte fish, formed roast beef, gyros, ground beef, and sausage; and a mixture of 2 or more types of meat that have been reduced in size and combined, such as sausages made from 2 or more meats.

**"Controlled Atmosphere Packaging (CAP)"** means an active packaging system which continuously maintains the desired atmosphere within the package throughout the shelf-life of the product. CAP uses an agent to bind or "scavenge" oxygen permeating the package, or a sachet to emit a gas.

**"Cook-chill processing"** means a process in which a plastic bag is filled with hot cooked food and the air is expelled while the bag is being sealed before being blast or tumble chilled.

**"Critical control point"** means a point or procedure in a specific food system where loss of control may result in an unacceptable health risk.

**"Critical item"** means a provision of this Code that, if in noncompliance, is more likely than other violations to contribute to food contamination, illness, or environmental degradation.

**"Curing"** means the placing in or on edible flesh of approved ingredients, such as a solution or mixture containing chloride and nitrite salts of sodium or potassium, water, sodium erythorbate or ascorbate, sodium phosphates, sweeteners (dextrose and cane sugar) and flavorings.

**"Dedicated equipment or personnel"** means equipment or personnel reserved solely for the use of one food processing operation to prevent cross-contamination.

**"Fish"** means fresh or saltwater finfish, molluscan shellfish, crustaceans, and other forms of aquatic animal life other than birds or mammals and includes any edible human food product derived in whole or in part from fish, including fish that has been processed in any manner.

**“Food Employee” or “Food Handler”** means an individual working with unpackaged/open food, food equipment or utensils, or food contact surfaces, excluding whole, uncut, and intact fruits, vegetables, nuts, and legumes.

**"Game animal"** means an animal, the products of which are food that is not classified as cattle, sheep, swine, or goat.

"Game Animal" includes but is not limited to animals such as reindeer, elk, deer, antelope, water buffalo, bison, rabbit, squirrel, bear, and muskrat; aquatic and non-aquatic birds such as wild ducks and geese, quail, and pheasant; nonaquatic reptiles such as rattlesnakes; and aquatic mammals;

**"Hazard Analysis Critical Control Point (HACCP) Program"** means a comprehensive food safety control plan which includes a step-by-step description of the food processing, packaging and storage procedures including identification of critical control points (CCPs); the food contact surface cleaning and sanitizing procedures; lot identification procedure and training procedures, et al.

**"HACCP plan"** means a written document that delineates the formal procedures for following the Hazard Analysis Critical Control Point principles developed by the National Advisory Committee on Microbiological Criteria for Foods.

**"Imminent health hazard"** means a significant threat or danger to health that is considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that require immediate correction or cessation of operation to prevent injury based on: (i) the number of potential injuries, and (ii) the nature, severity, and duration of the anticipated injury.

**"Lot"** means a unique run of processed or packaging product with a specifically designated identifier, date and processing operation.

**"Meat"** means the flesh of animals used as food including the dressed flesh of cattle, swine, sheep, or goats and other edible animals, except fish and poultry, that is offered for human consumption.

**"Modified Atmosphere Packaging (MAP)"** means a one-time gas-flushing and sealing process. The gas atmosphere within the package after sealing is then allowed to passively change due to factors of container permeability and food product/atmosphere chemical inter-change.

**"Molluscan shellfish"** means any edible species of fresh or frozen oysters, clams, mussels, and scallops or edible portions thereof, except fish and poultry, that is offered for human consumption.

**"Official Method of Analysis"** means the Official Methods of Analysis of the Association of

Official Analytical Chemists, 15th Edition or Standard Methods for Examination of Dairy Products.

**"Potentially hazardous food"** - the term for potentially hazardous food is further defined to mean a food that is natural or synthetic and is in a form capable of supporting:

- A. The growth and toxin production of *Clostridium botulinum*.
- B. This term also includes whole fresh eggs, an animal food (a food of animal origin) that is raw or heat-treated; a food of plant origin that is heat-treated or consists of raw seed sprouts; cut melons; cut tomatoes; cut leafy greens; and garlic and oil mixtures.
- C. "Potentially hazardous food" does not include:
  - 1. An air-cooled hard-boiled egg with shell intact;
  - 2. A food with a water activity ( $a_w$ ) value of 0.85 or less;
  - 3. A food with a hydrogen ion concentration (pH) level of 4.6 or below when measured at 24°C (75°F);
  - 4. A food, in an unopened hermetically sealed container, that is commercially processed to achieve and maintain commercial sterility under conditions of non-refrigerated storage and distribution; and
  - 5. A food for which laboratory evidence that is the basis of a variance granted by the regulatory authority demonstrates that rapid and progressive growth of infectious and toxigenic microorganisms or the slower growth of *C. botulinum* cannot occur.

**"Processing"** means to manufacture, compound, intermix or prepare food products for sale or for customer service.

**"Ready-to-eat food"** means food that is in a form that is edible without washing, cooking, or additional preparation by the food establishment or the consumer and that is reasonably expected to be consumed in that form. "Ready-To-Eat Food" includes:

- A. Unpackaged potentially hazardous food that is cooked to the temperature and time required for the specific food;
- B. Raw, washed, cut fruits and vegetables;
- C. Whole, raw, fruits and vegetables that are presented for consumption without the need for further washing, such as at a buffet; and
- D. Other food presented for consumption for which further washing or cooking is not required and from which rings, peels, husks, or shells are removed.

**"Reduced oxygen packaging"** means the reduction of the amount of oxygen in a package by mechanically evacuating the oxygen; displacing the oxygen with another gas or combination of gases; or otherwise controlling the oxygen content in a package to a level below that normally found in the surrounding atmosphere, which is 21% oxygen. This term includes methods that may be referred to as altered atmosphere, modified atmosphere, controlled atmosphere, low oxygen, and vacuum packaging including sous vide.

**"Water activity"** means a measure of the free moisture in a food, is the quotient of the water vapor pressure of the substance divided by the vapor pressure of pure water at the same

temperature, and is indicated by the symbol  $a_w$ .

## **Food Protection**

### **1. General rule.**

All foods while being displayed, prepared, stored, sold or transported shall be protected from contamination from dirt, dust, flies, rodents and other vermin, unclean utensils and work surfaces, droplet infection, flooding, overhead leakage and improper storage temperatures.

### **2. Food storage.**

All food and drink shall be stored and sold in such a manner as to minimize the opportunities for contamination. All unwrapped or unenclosed foods on display shall be suitably protected from public handling, dust, dirt, flies and droplet infection. Packaged food or drink shall not be stored in contact with water or undrained ice. Stored ice used for human consumption shall not be used for cooling stored food or food utensils. Food shall not be stored or prepared beneath overhead sewer or drain pipes.

Food shall not be stored in areas of buildings which are subject to flooding from sewage back flow. All ~~dry~~ foods shall be stored elevated above the floor at least six (6) inches and away from the walls to allow an unobstructed view and a sufficient distance that permits cleaning of the storage area. All bulk foods shall be stored in properly labeled containers.

### **3. Hot food storage facilities.**

All food establishments which prepare, sell, or store hot foods shall have adequate and conveniently located hot food storage facilities capable of providing proper temperatures of foods stored therein. Each such facility shall be provided with an indicating thermometer accurate to  $\pm 2^\circ \text{F.}$ , located in the coldest part of the facility and shall be easily readable.

Potentially hazardous foods that were cooked and then refrigerated shall be heated to  $165^\circ\text{F.}$  or higher throughout before being placed in hot food storage facilities. Steam tables, bain maries, warmers and other hot food holding facilities are prohibited for the rapid heating of potentially hazardous foods.

All hot foods shall be stored at a temperature of  $140^\circ\text{F.}$  or above at all times prior to sale or service. Except that rare roast beef shall be held for service at a temperature of at least  $130^\circ\text{F.}$

All hot foods prepared at a licensed food establishment, and transported to another location, for sale or service, shall be constantly maintained at a temperature of  $140^\circ\text{F.}$  or above. Supplemental means of maintaining such temperatures may be required. No hot foods shall be in transit for a period of more than two (2) hours unless supplemental heating facilities are provided on the vehicle to maintain the food at  $140^\circ\text{F.}$  or higher. After delivery, all hot foods, prior to service, shall be heated rapidly to an internal temperature of  $165^\circ\text{F.}$  or higher and maintained at a temperature of  $140^\circ\text{F.}$  or higher until served.

**4. Refrigerated food storage facilities.**

All food establishments which display, prepare or store potentially hazardous food shall have adequate and conveniently located refrigerated food storage facilities capable of providing proper temperatures of food stored therein. Each such facility shall be provided with an indicating thermometer, accurate to 2°F., located in the warmest part of the facility and easily readable.

All cold foods shall be stored at a temperature of 40°F. or less in holding facilities. All foods stored in display cases shall be kept at 40°F., or less. Temperature shall be determined by measurement of actual product temperature in the storage device.

**5. Frozen food storage.**

All frozen foods shall be kept frozen stored at 0°F., or less. Thawing of frozen foods for further processing of use shall be accomplished by storage in a refrigerator at 40°F., or less, or by any other approved method. Frozen foods that have been thawed shall not be re-frozen without subsequent cooking.

**Food Preparation**

**1. General.**

All food and drink shall be prepared and served with no bare-hand contact with ready-to-eat foods.

**2. Raw food.**

Food utensils and surfaces used in the preparation of raw fish, raw meat or raw poultry shall be properly washed and sanitized in an approved manner prior to subsequent use for preparation of ready-to-eat food. Raw fruits and vegetables shall be properly washed prior to serving.

**3. Cooking.**

Raw animal foods such as eggs, fish, poultry, meat, and foods containing these raw animal foods, shall be cooked to heat all parts of the food to a temperature and for a time that are at least:

- A. 63° C (145°F) or above for 15 seconds for: Shell eggs that are broken and prepared in response to a consumer's order and for immediate service, and Fish and meat that are not specified elsewhere in this code;
- B. For pork and game animals, comminuted fish and meats, injected meats, and eggs that are not prepared as specified elsewhere to 68°C (155°F) for 15 seconds.
- C. For roasts of beef and corned beef; see **Beef Roast Cooking** below.
- D. For field-dressed wild game animals, poultry, stuffed fish, stuffed meat, stuffed pasta, stuffed poultry, or stuffing containing fish, meat or poultry, 74°C (165°F) for 15 seconds.

**34. Beef roast cooking**

- A. In an oven that is preheated to the temperature specified below for their

- weight and held at or above that temperature and;
- B.** To a food temperature as specified and held for the corresponding amount of time specified for that temperature.

**Minimum food temperature and holding time required for cooking all parts of pork and game animals, comminuted° fish and meats, and injected meats.\***

Temperature °C ( °F)	Time
63 (145)	3 minutes
66 (150)	1 minute
68 (155)	15 seconds

\* Holding time may include post-oven heat rise.

**Oven temperature parameters required for destruction of pathogens on the surface of roasts of beef and corned beef.\***

Oven Type	Roast Weight less than or equal to 4.5kg (10lbs)	Roast Weight greater than 4.5 kg (10lbs)
Still dry	177°C (350°F)	121°C (250°F)
Convection	163°C (325°F)	163°C (325°F)
High humidity **	less than 121°C (250°F)	less than 121°C (250°F)

\* Holding time may include post-oven heat rise.

\* \*\*Relative humidity greater than 90% for at least 1 hour as measured in the cooking chamber or exit of the oven; or in a moisture-impermeable bag that provides 100% humidity.

**Minimum holding times required at specified temperatures for cooking all parts of roasts of beef and corned beef.\***

Temperature° C (°F)	Time in minutes *	Temperature°C(°F)	Time in minutes *
54 (130)	121	60 (140)	12
56 (132)	77	61 (142)	8
57 (134)	47	62 (144)	5
58 (136)	32	63 (145)	3
59 (138)	19		

\* Holding time may include post-oven heat rise.

**5. Microwave cooking.**

Raw animal foods cooked in a microwave oven shall be:

- A.** Rotated or stirred throughout or midway during cooking to compensate for uneven distribution of heat;
- B.** Covered to retain surface moisture;
- C.** Heated an additional 14°C (25°F) above the temperature specified in tables C, 1, 2, 3, 4, to compensate for shorter cooking times; and
- D.** Allowed to stand covered for 2 minutes after cooking to obtain temperature equilibrium.

## 6. Consumer Advisory.

Raw and under-cooked animal foods that are served or offered for sale in a ready-to-eat form are exempt from the cooking requirements of this section, provided the food service establishment serving the food follows the consumer advisory requirements specified. Examples of this type of food include raw, marinated fish; raw molluscan shellfish; steak tartare; lightly cooked fish; rare meat; and soft cooked eggs.

Establishments such as nursing homes, hospitals, day care centers and nursery schools that serve a highly susceptible population, including the elderly, young children under age four, pregnant women, and individuals who are ill or have compromised immune systems, shall not serve raw or under-cooked animal foods.

If a raw or undercooked animal food such as beef, eggs, fish, lamb, milk, pork, poultry, or shellfish is offered in a ready-to-eat form as a deli, menu, vended, or other item; or as a raw ingredient in another ready-to-eat food, the license holder shall inform consumers by issuing in written form the following statement:

**"The Chicago Department of Public Health advises that consumption of raw or undercooked foods of animal origin such as beef, eggs, fish, lamb, pork, poultry or shellfish may result in an increased risk of foodborne illness. Individuals with certain underlying health conditions may be at higher risk and should consult their physician or public health official for further information."**

## 7. Custard.

All custard-filled, and custard-cream-filled pastries shall be re-baked after filling at an oven temperature of at least 425°F., for at least 20 minutes, and cooled to 40°F. or less within one hour thereafter, or the filling shall be heated before the pastry shells are filled, so that every particle of the custard or custard-cream mix is held at a temperature of at least 190°F., for at least ten minutes, and cooled either before or after filling the pastry shells to 40°F. or less within one hour after heating, and shall be maintained at that temperature until served, or sold. Synthetic custard products requiring reconstitution shall be heated prior to filling as prescribed by the above rule and the filled pastry shall be refrigerated as per above rule.

All food establishments shall have metal stem type thermometers accurate to +/- 2°F. Temperature measurement shall be taken in the center of the thickest part of the actual product.

## 8. Cooling.

- A. Cooked potentially hazardous food shall be cooled within a 6 hour period according to the following schedule:
  - 1. From 60°C (140°F) to 21 °C (70°F) within 2 hours; and
  - 2. From 21 °C (70°F) to 4°C (40°F), or below, within 4 hours.
- B. Potentially hazardous food shall be cooled to 4°C (40°F) or below within 4 hours if prepared from ingredients at ambient temperature, such as reconstituted foods and canned tuna.

C. Fluid milk and milk products, shell eggs, and molluscan shellstock received in compliance with laws regulating the respective food during shipment from the supplier shall be cooled to 4.44°C (40°F) or below within 4 hours.

**9. Cooling Methods.**

A. Cooling shall be accomplished in accordance with the time and temperature criteria specified by using one or more of the following methods based on the type of food being cooled:

1. Placing the food in shallow pans;
2. Separating the food into smaller or thinner portions;
3. Using rapid cooling equipment;
4. Stirring the food in a container placed in an ice water bath;
5. Using containers that facilitate heat transfer;
6. Adding ice as an ingredient; or
7. Other effective methods.

B. When placed in cooling or cold holding equipment, food containers in which food is being cooled shall be:

1. Arranged in the equipment to provide maximum heat transfer through the container walls; and
2. Loosely covered, or uncovered if protected from overhead contamination during the cooling period to facilitate heat transfer from the surface of the food.

**Food Display**

1. All potentially hazardous foods on display shall be kept at a temperature of 40°F. or less or at a temperature of 140°F. or higher prior to service.
2. All unwrapped foods on display shall be properly protected from public handling, dust, dirt, flies and droplet infection.
3. All unwrapped foods on display for "customer self-service" shall be protected from contamination from the customers and other sources by sneeze guards or proper food protection devices installed in a manner approved by the Department of Health.
4. All "customer self-service" foods on display shall be in small containers to prevent undue exposure to mishandling or other miscellaneous contamination.
5. Each container of "customer self-service" foods shall be provided with a separate serving utensil.
6. For each visit to the "customer self-service food display" only clean tableware shall be used.
7. Management shall take all necessary steps to prevent the manual handling or other contamination of the foods on display.

## Ready-To-Eat, Potentially Hazardous Food, Date Marking

1. Refrigerated, ready-to-eat, potentially hazardous food prepared and held for more than 24 hours in a food establishment shall be marked with the date of preparation.
2. A container of refrigerated, ready-to-eat, potentially hazardous food prepared and packaged by another food establishment or a food processing plant shall be marked to indicate the date of preparation.
3. Paragraph (2) of this section does not apply to:
  - A. Cured meats and aged cheese; and
  - B. Individual meal portions served or repackaged for sale from a bulk container upon a consumer's request.

## Food Service

### General

All food and drink shall be handled and served in such a manner as to minimize the opportunities for contamination.

- A. **Shell eggs**  
Shell eggs shall be clean and received whole and without cracks or checks.
- B. **Liquid, frozen, and dry eggs**  
Liquid, frozen, and dry eggs and egg products shall be obtained pasteurized.
- C. **Fluid, frozen, and dry milk and milk products**  
Fluid, frozen, and dry milk and milk products shall be obtained pasteurized unless alternative procedures to pasteurization are provided for in the Code of Federal Regulations (CFR), such as in 21 CFR 133 - cheeses and related cheese products, for curing certain cheese varieties.
- D. **Package integrity**  
Food packages shall be in good condition and protect the integrity of the contents so that the food is not exposed to adulteration or potential contaminants. All canned, bottled or otherwise hermetically sealed food products shall be processed according to the current rules and regulations of good manufacturing practices and procedures now in use by the United States Public Health Service, Food and Drug Administration or those hereinafter promulgated. All processed and packaged foods offered for sale by wholesale food establishments shall be properly labeled in accordance with current requirements of the United States Public Health Service, Food and Drug Administration or those hereinafter promulgated.
- E. **Condiments**  
Condiments, salad dressings, seasonings and sugar shall be served only in approved dispensers or single service packages.
- F. **Butter service**  
Sliced butter shall be served without coming in direct contact with fingers or hands.
- G. **Ice and ice dispensing**  
Ice for use as a food or a cooling medium shall be made from drinking water. Ice for

consumer use shall be dispensed only by employees with scoops, tongs, or other ice dispensing utensils, or through automatic self-service ice dispensing equipment. Between uses during service, ice

**H. Frozen dessert utensils**

When not in use, spoons spatulas, dippers, scoops, etc., used for dispensing frozen desserts, shall be stored in a dipper well served by clean running water. All dipper wells shall be washed and sanitized daily.

**I. Re-service of foods**

Foods once served to a consumer shall not be re-served, with the exception that packaged foods remaining in their original unopened package may be re-served.

**J. Shucked molluscan shellfish, packaging and identification**

Raw and frozen shucked molluscan shellfish shall be obtained in non-returnable packages legibly bearing the name of the person who shucks and packs the shellfish, the person's authorized certification number, and the "sell by" date for packages with a capacity of less than 1.87 liter (one-half gallon) or the date shucked for packages with a capacity of 1.87 liter (one-half gallon) or more.

**K. Molluscan shellstock identification**

Molluscan shellstock shall be obtained in containers bearing legible source identification tags or labels that are affixed by the harvester and each dealer that depurates, ships, or reships the shellstock, as specified in the National Shellfish Sanitation Program Manual of Operations, Part II Sanitation of the Harvesting, Processing and Distribution of Shellfish, and that list:

1. Except as specified below, the following information in the following order must be provided on the harvester's tag or label.
  - (a) The harvester's identification number that is assigned by the shellfish control authority,
  - (b) The date of harvesting,
  - (c) The most precise identification of the harvest location or aquaculture site that is practicable based on the system of harvest area designations that is in use by the shellfish control authority and including the abbreviation of the name of the state or country in which the shellfish are harvested,
  - (d) The type and quantity of shellfish, and
  - (e) The following statement in bold, capitalized type: **"THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS"**;  
and
2. Except as specified below on each dealer's tag or label, the following information in the following order shall be provided.
  - (a) The dealer's name and address, and the certification number assigned by the shellfish control authority,
  - (b) The original shipper's certification number including the abbreviation of the name of the state or country in which the shellfish are harvested,
  - (c) The information specified in (1), (b)-(d) of this section, and

(d) The following statement in bold, capitalized type: "**THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY AND THEREAFTER KEPT ON FILE FOR 90 DAYS**".

3. If a place is provided on the harvester's tag or label for a dealer's name, address, and certification number, the dealer's information shall be listed first.
4. If the harvester's tag or label is designed to accommodate each dealer's identification as specified under (2), (a) and (b) of this section, individual dealer tags or labels need not be provided.

**L. Molluscan shellstock, condition**

When received by a food establishment, molluscan shellstock shall be reasonably free of mud, dead shellfish, and shellfish with broken shells. Dead shellfish or shellstock with badly broken shells shall be discarded.

**M. Molluscan shellfish, original container**

1. Except as specified in (2) of section (a), molluscan shellfish may not be removed from the container in which they were received other than immediately before sale or preparation for service.
2. Molluscan shellstock may be removed from the container in which they were received, displayed on drained ice, or held in a display container, and a quantity specified by a consumer may be removed from the display or display container and provided to the consumer if:
  - (a) The source of the shellstock on display is identified, and recorded as specified herein, and
  - (b) The shellstock are protected from contamination.
3. Shucked molluscan shellfish may be removed from the container in which they were received and held in a display container from which individual servings are dispensed upon a consumer's request if:
  - (a) The labeling information for the shellfish on display as specified herein is retained and correlated to the date when, or dates during which, the shellfish are sold or served; and
  - (b) The shellfish are protected from contamination.

**N. Shellstock, maintaining identification**

The identity of the source of shellstock that are sold or served shall be maintained by retaining shellstock tags or labels for 90 calendar days from the date the container is emptied by:

1. Using a record keeping system approved by the regulatory authority that keeps the tags or labels in chronological order correlated to the date when, or dates during which, the shellstock are sold or served;
2. If shellstock are removed from their tagged or labeled container:
  - (a) Using only 1 tagged or labeled container at a time,  
or
  - (b) Using more than 1 tagged or labeled container at a time and obtaining a variance from the regulatory authority based on a HACCP plan that:
    - (i) Is submitted by the permit holder and approved by the regulatory authority.

- (ii) Preserves source identification by using a record keeping system and,
- (iii) Assures that shellstock from one tagged or labeled container are not commingled with shellstock from another container before being ordered by the consumer.

## **Food Handling Personnel**

### **A. Hygienic practices**

All persons who are employed in any capacity in a food establishment shall wash their hands thoroughly in an approved hand washing facility using warm water and a suitable soap or detergent, rinsing and drying with sanitary toweling or an approved drying device before starting or returning to work and as often as necessary to maintain a high degree of personal cleanliness and conform to hygienic practices while on duty. All employees shall wash their hands after using toilet facilities, and after handling garbage, unclean utensils or other contaminating conditions. The washing of hands in a utensil-washing sink is prohibited.

### **B. Clothing**

All persons who are employed in any capacity in a food establishment shall wear garments, suits, or dresses which are clean and of washable character and nature. All food handlers engaged in the preparation of food shall remove all insecure jewelry and during all periods of manual contact with food shall remove from hands all rings, bracelets, and other jewelry that cannot be adequately sanitized. All such employees shall be required to use hair nets, head bands, caps, or other effective hair restraints to confine hair.

### **C. Employee practices**

Employees shall consume food only in designated dining areas that are not used for the preparation of food or the washing and storage of utensils. Employees shall not expectorate, or use tobacco in any form, while engaged in food preparation or service, nor while in any room in which food is prepared, or any room used for the washing of equipment or utensils.

### **D. Certificates of registration**

All food establishments shall employ and have present on the premises at all times that potentially hazardous food is being handled, a person having supervisory authority who holds a valid Chicago Department of Public Health Certificate of Registration in food handling and sanitation.

Each Certificate of Registration shall expire five years after the date that it is issued. No certificate shall be issued or renewed unless the applicant has successfully completed a food sanitation course and examination approved by the Department of Public Health.

### **E. Food handler requirements**

All food handlers except those who possess a certified food manager certification must obtain training in basic safe food handling principals in accordance with 410 ILCS 625/3.05 and 410 ILCS625/3.06.

## **Food Equipment**

### **A. Construction and installation of equipment and utensils**

All equipment and utensils shall be so designed and out of such material and workmanship as to be smooth, easily cleanable, and durable, and shall be in good repair; and the food-contact surfaces of such equipment and utensils shall, in addition, be easily accessible for cleaning, non-toxic, corrosion resistant, and relatively non-absorbent: Provided that, when approved by the Department of Public Health, exceptions may be made to the above material requirements for equipment, such as cutting boards, blocks, and baker's tables.

All equipment and utensils shall be so durable under normal conditions and operation as to be resistant to denting, buckling, pitting, chipping, grazing, and excessive wear; and shall be capable of withstanding repeated scrubbing, scouring, and the corrosive action of normal cleaning and sanitizing agents and food with which they come in contact.

Food contact surfaces of equipment and utensils shall be smooth, free of breaks, open seams, cracks, chips, pits, and similar imperfections, shall be in good repair, and shall be easily cleanable. This requirement permits only sanitary type threads in food contact areas. The joint between the moving and stationary surfaces of food equipment shall be close fitting, and only sanitary type lubricants may be used. Tanks, kettles, large containers and other equipment, used for the storage and preparation of liquid or semi-liquid food, shall be self-draining. Sanitary piping shall be provided for the conveying of beverages and beverage ingredients. No new mechanical food-contact equipment may be installed unless the equipment or complete drawings thereof shall have been submitted to the Department of Health prior to installation and approved. Equipment in use at the time of adoption of these regulations, which does not meet fully the above requirements, may be continued in use if it is in good repair, capable or being maintained in a sanitary condition, and the food-contact surfaces are non-toxic.

Single-service articles shall be made from non-toxic materials. Single-service cups, plates, straws, spoons, forks, and utensils shall be purchased in sanitary cartons and stored therein in a clean, dry place until used, and after removal from the cartons these articles shall be handled in such a manner as to prevent contamination.

No food establishment shall serve, or allow or permit to be served to any person, drinking straws which are not completely enclosed in a wrapper or which are not available to the consumer from an approved dispenser device. Single-service containers, cups, spoons, forks, or plates shall not be used a second time. All such single-service drinking straws and containers shall be discarded immediately after use.

No food equipment or utensils used in the cutting, preparing, processing or slicing of raw fish, raw meat or raw poultry shall be used in the cutting, preparing, processing or slicing of ready to eat foods without first properly washing, rinsing, and sanitizing the food equipment or utensil.

Treatment equipment employed for the conditioning and treatment of water shall be the type approved by the Department of Public Health and shall comply with all the requirements of the Plumbing Section of the Municipal Code of Chicago. Filters and necessary appurtenances shall not be operated beyond their rated capacity. All types of equipment shall be maintained in a clean and sanitary condition at all times. If a chemical is used for bacterial treatment, records shall be kept of the operation of the chlorinator or other device, including the results of residual tests taken periodically. Records of the operation of water-treatment equipment, and interruption of the supply or modifications of the method of purification shall be kept.

In all existing bottled-water plants, the machinery and equipment shall be laid out and located to effect such a separation of the washing, filling, compounding or mixing of beverage and shipping operations, as will insure complete elimination of contamination. Every layout for machinery and equipment in each plant shall be subject to the approval of the Department of Public Health and shall conform to all requirements of these regulations. All bottled water plants shall be equipped with approved mechanical bottle-washing apparatus which complies with all the requirements of the Plumbing Section of the Municipal Code of Chicago. All machine washing procedures must comply with methods as set forth in the following provisions.

**B. Cleaning and sanitizing of equipment and utensils**

In cases of bottles washed in a soaker-type washing device, the soaker solution shall contain not less than 3% alkali, of which not less than 60% shall be caustic soda (NaOH). The operation of the device shall be such that bottles in the process of washing remain in the soaker solution for a period of not less than five (5) minutes. During the washing operation, the temperature provided, however, that where bottle-washing devices are geared to allow the bottles to remain in the soaker solution for less than five (5) minutes, or where the temperature of the soaker solution is thermostatically controlled at a point above 130°F., the time, temperature and caustic content shown in the following table shall be used to insure proper washing and bactericidal treatment:

**Required Concentration (%) of NaOH by Solution Temperature and Holding Time**

	Temperature of solution					
Holding time	110°F	120°F	130°F	140°F	150°F	160°F
1 minute	11.8	7.9	5.3	3.5	2.4	1.6
3 minutes	6.4	4.3	2.9	1.9	1.3	0.9
5 minutes	4.8	3.2	2.16	1.4	1.0	0.6

All bottle-washing devices shall be equipped with an accurate indicating thermometer which shall show the temperature of the soaker solution, and which shall be so placed as to be in plain sight of the operator. After water or beverage bottles have been washed by any process provided in these regulations, they shall be subjected to an effective rinsing with potable water completely removing all remaining washing solutions.

Nothing in this section shall prohibit the use of any other method approved by the Department of Health for washing and bacterial treatment of bottles.

Single service containers shall be made from non-toxic materials, shall comply with the United States Federal Drug Administration standards of acceptability for food purposes, and shall be air-blown or rinsed with potable water prior to filling.

All pre-mix beverage containers shall be properly subjected to washing and sanitizing procedure that meets with the approval of the Department of Health.

All utensils shall be thoroughly cleaned and sanitized after each usage. All food-contact surfaces of equipment and all food-storage utensils shall be thoroughly cleaned and sanitized daily. Cooking surfaces of equipment shall be cleaned at least once a day. All utensils and food-contact surfaces of equipment used in the preparation, service, display, or storage of potentially hazardous food shall be thoroughly cleaned and sanitized after each use. Non-food contact surfaces of equipment shall be cleaned at such intervals as to keep them in a clean and sanitary condition.

Where potentially hazardous foods are processed in non-refrigerated areas, all food-contact equipment used shall be cleaned and sanitized at a maximum of a four (4) hour time lapse. All surfaces of equipment and utensils with which food or drink comes in contact shall be easily accessible for cleaning.

All piping used for the conveyance of food shall be so constructed as to be easily dismantled for cleaning, and all surfaces of equipment used for the preparation or storage of food and drink shall be accessible to sight or touch for the purpose of manual cleaning, except that this shall not apply in the instance of use of an approved system of cleaning in place procedure.

Cleaning in place procedures for cleaning and sanitizing of equipment may be utilized provided such procedures can demonstrate that results of bacteriological swabs or rinses are in compliance with the standards as hereinafter indicated. All equipment shall be so installed and maintained as to facilitate the cleaning thereof, and of all adjacent areas. Table mounted equipment that is placed on tables or counter, unless portable, shall be sealed to the table or mounted on legs at least four (4) inches high and shall be installed to facilitate the cleaning of the equipment and adjacent areas. Floor mounted equipment shall either be permanently attached to the floor, with joints properly sealed, or mounted on legs six (6) inches high or portable.

### **C. Cleaning and Sanitizing Facilities**

All food establishments shall provide sinks and drain-boards of sufficient size to permit the complete immersion of the largest utensils and each compartment of the sink shall be supplied with hot and cold running water. All said sinks shall have drain boards, suitably reinforced and of such thickness and design so as to resist denting, buckling, and sloped so as to be self-draining. The sinks shall be properly trapped and comply with all of the requirements of the municipal code.

## Manual Cleaning and Sanitizing Of Multi-Use and Drinking Utensils

### A. General

All multi-use eating and drinking utensils used in a food establishment shall be washed and sanitized prior to consumer usage.

### B. Manual dish washing

All food establishments that use multiuse food equipment, dishes, and utensils shall provide a minimum of a commercial dish washer metal three (3) compartment sink, drainboard, a grease interceptor and running hot and cold water under city pressure. Sinks shall be of sufficient size to permit complete immersion of the utensils to be washed and sanitized therein.

Sinks shall be cleaned prior to use. Dishes and other utensils shall be pre-rinsed or scraped to remove gross food particles or other soil before washing.

Handwashing of all tableware and drinking utensils shall be accomplished by the use of warm water at a temperature of from 110°F. to 120°F. containing an adequate amount of detergent effective to remove grease or solids. The water shall be changed at sufficiently frequent intervals to keep it reasonably clean. After cleaning, all such utensils shall be effectively rinsed and then subjected to one or more of the following or other equivalent approved bactericidal processes.

### C. Chemical Sanitizing

A chemical sanitizer used in a sanitizing solution for a manual or mechanical operation at exposure times of at least 10 seconds for a chlorine solution, at least 30 seconds for other chemical sanitizer solutions or an exposure time used in relationship with a combination of temperature, concentration, and pH shall be used in accordance with the EPA - approved manufacturer's label use instructions, and shall be used as follows:

1. A chlorine solution shall have a minimum temperature based on the concentration and pH of the solution as listed in the following chart:

Minimum Concentration (mg/L)	Minimum Temperature °C (°F), pH 10 or less	Minimum Temperature °C (°F), pH 8 or less
25	49 (120)	49 (120)
50	38 (100)	24 (75)
100	13 (55)	13 (55)

2. An iodine solution shall have a:
  - (a) Minimum temperature of 24°C (75°F),
  - (b) A pH of 5.0 or less, unless the manufacturer's use directions included in the labeling specify a higher pH limit of effectiveness, and

- (c) Concentration between 12.5 mg/L and 25 mg/L;
- 3. A quaternary ammonium compound solution shall:
  - (a) Have a minimum temperature of 24°C (75°F),
  - (b) Have a concentration as specified in 21 CFR and as indicated by the manufacturer's use directions included in the labeling, and
  - (c) Be used only in water with 500 mg/L hardness or less;
- 4. Other solutions of the chemicals specified in (1) - (3) of this section may be used if demonstrated to the regulatory authority to achieve sanitization approved by the regulatory; or
- 5. Other chemical sanitizers may be used if they are applied in accordance with the manufacturer's use directions included in the labeling.
- 6. When chemicals are used for sanitizing, they shall not have concentrations higher than the maximum permitted under 21 CFR 178.1010, and a test kit or other device that accurately measures the parts per million concentration of the solution shall be provided and used.

#### **D. Hot water sanitizing**

Immersion for at least one-half (½) minute in clean, hot water at a temperature of at least 180°F. Prior to use of hot water as a bactericidal treatment, the following equipment shall be provided. A mechanically controlled heating device shall be installed at the particular sanitizing compartment of the sink so as to maintain minimum water temperature of 180°F. at all times.

An indicating thermometer, accurate to +/- 2°F. shall be conveniently provided and used to check the temperature of the bactericidal water to insure compliance with these regulations. A three (3) compartment deep sink of at least galvanized metal or better shall be provided and fitted with drainboard made of galvanized metal or better. After washing in the first sink, dishes, glasses, etc., shall be placed in metal baskets and rinsed in the second sink. After rinsing in the second sink the baskets shall be immersed in hot water in the third sink used for the bactericidal treatment for at least one-half minute. The baskets may be lined with wood strips of approved material or plastic strips to prevent marking of all chinaware. Upon removal of the basket from the third sink, dishes or other utensils shall remain in the basket on an attached drainboard until dry. Glasses, cups and other equipment shall be placed in baskets in venting position so that the air will not be trapped.

All food establishments currently using an approved two (2) compartment sink for washing and sanitizing multi-use eating and drinking utensils, shall be permitted to continue such use until such time as the sink is in need of repair and replacement. All said replacements shall be by installation of an approved three (3) compartment sink.

### **Mechanical Dishwashing and Sanitizing Procedures**

#### **A. General**

All dishwashing machines must be of a type which complies with all the requirements of the

Plumbing Section of the Municipal Code of Chicago and Rules and Regulations of the Board of Health and be geared to such capacity that will provide effective washing and sanitization of multi-use eating and drinking utensils and will provide an adequate supply of such utensils at all normal meal times.

Dishes and other eating and drinking utensils to be washed in a dishwashing machine shall be properly scraped and prerinsed and shall be stacked in racks or trays so as to avoid overcrowding, and so as to permit the wash and rinse waters to reach all surfaces of each utensil.

Machine washing, multi-use eating and drinking utensils shall be washed in water containing a suitable detergent at a temperature from 120°F. to 140°F. or other method approved by the Department of Health.

The water in the wash tank shall be changed during operation as often as necessary to keep it reasonable clean. An effective concentration of detergent in the wash water shall be maintained at all times.

Bactericidal treatment shall consist of exposure of all surfaces of dishes and utensils being washed to a rinse of clean water at a temperature of not less than 180°F. or other method approved by the Department of Health.

**B. Hot water booster heater**

Where an installation does not provide water at a temperature of 180°F. in the rinse compartment of a dishwashing machine, a thermostatically controlled booster heater shall be specifically provided to insure rinsing at the required temperature.

**C. Dishwashing machine requirements**

All dishwashing machines shall maintain a flow pressure not less than 15 or more than 25 pounds per square inch on the fresh water line at the machine and not less than 10 pounds per square inch at the rinse nozzles. A suitable gauge cock shall be provided immediately upstream from the final rinse sprays to permit checking the flow of the final rinse water. An easily readable thermometer accurate to +/- 2°F. shall be provided on both the wash and rinse water lines of the dishwashing machine which will indicate the temperature of the water solution therein.

Dishwashing machines shall be thoroughly cleaned at least once each day. The pumps and the wash and rinse sprays or jets shall be so designed that a forceful stream of water will reach all surfaces of the utensils when they are properly racked. These parts shall be readily accessible for inspection and cleaning.

All dishwashing machines and other plumbing equipment, including sinks, shall drain to a sewer in such a way as to prevent back siphonage. All liquid waste resulting from cleaning and rinsing of utensils shall be disposed of by way of a plumbing connection to the city sewers. Other contemplated methods of sanitizing which may require dry heat or steam must be approved by the Department of Public Health prior to use.

#### **D. Bacteriological standards**

When multi-use eating and drinking utensils have been washed and subjected to bactericidal treatment by any of the above methods, they shall not show an average plate count in excess of 100 colonies per eight (8) square inches of swab surface or not more than 12 ½ colonies per square inch per utensil when swab tested by the latest standard method for bacteriological examination of food utensils of the American Public Health Association.

#### **E. Eating and drinking utensil handling and storage**

After bactericidal treatment, utensils and containers shall be stored at a sufficient height above the floor in a clean, dry place protected from flies, splash, dust, overhead leakage and condensation, and other contamination. Containers and utensils shall be inverted, covered, otherwise protected from contamination until used for serving.

Drain racks, trays, and shelves shall be made of noncorrodible material and shall be kept clean. In

handling containers and utensils the surfaces thereof which come in contact with food or drink shall not be touched by the hands, except during the process of washing.

Tables for clean and dirty dishes and food shall be so arranged that the dirty dishes will be as far removed from the food and clean dishes as may be possible.

All single-service articles and utensils shall be purchased in sanitary cartons and stored therein in a clean, dry place until used, and after removal from the cartons these articles shall be handled in such a manner as to prevent contamination.

### **Water Supply**

All food establishments shall be provided with an adequate supply of hot and cold water under pressure properly connected to the city water supply and same shall be easily accessible in all rooms in which food is prepared or utensils are washed. The water supply shall be ample in quantity for all cleaning purposes. Where steam, used in a food establishment, may come in contact with food or food contact surfaces, such steam shall be free of harmful materials or additives. All water connected equipment shall be provided with an air gap or other approved device to protect against the possibility of back flow or back siphonage into the city water supply. The use of a water hose shall be prohibited in the absence of an air gap or an approved back siphonage prevention device on the water line.

### **Plumbing, Toilet Facilities and Lavatory Facilities**

#### **A. Plumbing and liquid waste**

In food establishments, there shall be adequate plumbing facilities that comply with all the requirements of the Plumbing Section of the Municipal Code of Chicago. All plumbing fixtures, such as toilets, sinks, wash basins, etc., must be adequately trapped, vented, and revented and

properly connected to the sewer in compliance with the Plumbing Section of the Municipal Code of Chicago. All sinks in which food, utensils, and equipment are washed must be connected to a catch-basin or be equipped with an approved grease interceptor.

Dishwashers and bain maries, steam tables, coffee urns, and water coolers may discharge into the floor gutter or over a floor drain. Liquid waste from refrigerators and other food equipment shall be properly trapped and drained by broken connections to sewer; provided, however, that where sewer connections are not available, an adequate water-tight drip pan may be used, or the drainage shall be disposed of in a manner approved by the Department of Health.

#### **B. Toilet facilities**

Adequate and convenient toilet facilities shall be provided and shall be accessible at all times for employees in all food establishments. Where both sexes are employed, in case there are more than two employees of a sex, separate water closet accommodations, identified, shall be provided for each sex. Toilet rooms located in or adjacent to food preparation areas shall be completely enclosed and shall have tight-fitting doors with self-closing devices. Toilet rooms ~~and~~ shall be vented to the outside air or mechanically ventilated. Toilet rooms shall be so lighted as to yield at least 20 foot-candles of light by standard illuminometer test at a height of 30 inches above the floor. All toilet rooms and toilet facilities shall be kept clean, in good repair and free from odors. Toilet tissue shall be supplied at all times. Toilet rooms shall be provided with easily cleanable covered waste receptacles.

Signs shall be placed in all rooms, including those containing a urinal(s) or water closet, directing employees to wash their hands before returning to work.

Signs shall be posted in each toilet room, kitchen, or employees' locker room reading as follows: "No person who is affected with any disease in a communicable form, or is a carrier of such disease, or who has a gastrointestinal disturbance, sore throat or a discharging or infected wound, sore or lesion, shall handle food, drink, utensils, or equipment." Such signs shall be of a permanent nature. Toilet rooms shall not be used for the storage of equipment, food, single-service articles or utensils.

#### **C. Lavatory facilities**

Adequate and convenient handwashing facilities shall be provided for all employees in food establishments. Such facilities shall be located within, or immediately adjacent to, all toilet rooms, dish washing areas, and all food preparation areas.

All food establishments shall have exposed handwashing facilities, with ample supply of hot and cold or tempered running water, soap, and approved sanitary towels or other approved hand-drying devices so located as to be in the food preparation areas and dishwashing areas. The washing of hands in a utensil washing sink is prohibited.

In all food establishments such facilities shall be kept clean and in good repair and shall include an adequate supply of hot and cold or tempered water, soap, approved sanitary towels or other

approved hand drying devices. The use of a common towel is prohibited.

When toilet and lavatory facilities are provided for the patrons of food establishments, such facilities shall meet all the requirements of the above sections of this regulation.

### **Garbage and Rubbish**

All garbage and rubbish containing food wastes shall, prior to disposal, be stored in metal containers with tight-fitting lids and shall be kept covered except when opened for the disposal or removal of garbage; provided that such containers need not be covered when stored in a special vermin-proofed room, enclosure, or food waste refrigerator.

All other rubbish shall be stored in containers, or rooms, or in areas in an approved manner. The rooms, enclosures, areas and containers used shall be adequate for the storage of all garbage and refuse accumulating on the premises. Establishments using garbage can cleaners shall provide adequate cleaning facilities for such containers and each garbage container, room or area shall be thoroughly cleaned after the emptying or removal of the garbage and rubbish.

All garbage and rubbish shall be removed and disposed of daily by or at such other frequencies as may be necessary to prevent a nuisance. Removal of garbage and rubbish shall be conducted by a commercial garbage removal service for all food establishments that have a retail food and/or liquor license. The area outside of the establishment shall be clean at all times and shall not constitute a nuisance.

Food waste grinders or garbage disposals if used shall be installed in compliance with the Plumbing Section of the Municipal Code of Chicago. Garbage compactors shall be treated as garbage containers and shall be installed only in a manner and area that meet with the approval of the Department of Health and shall be thoroughly cleaned after emptying or removal of refuse. The area in which the compactor is located shall be designated as a garbage area and shall be kept clean, free of flies, rodents, roaches and other vermin and shall not constitute a nuisance.

### **Insect and Vermin Control**

#### **A. Control measures**

All necessary control measures shall be used to effectively minimize and eliminate the presence of rodents, flies, roaches and other vermin on the premises.

When flies are prevalent, all openings to the outside shall be effectively screened with 16-mesh wire or plastic cloth. All doors shall be self-closing and screen doors to the other air shall open outward. In cases of other unprotected openings, properly operating and approved air curtains or fans or sufficient power, or other approved means to prevent the entrance of flies shall be used.

Windows, doors, skylights, transoms and other openings shall be screened. Screens shall be tight

fitting and free from holes. All food establishments shall be effectively rat-proofed to prevent the entrance of rodents.

**B. Storage of poisonous compounds**

All poisonous compounds used in the control or extermination of rodents or insects shall be so colored as to be easily identified. The containers of such insecticides and rodenticides shall be distinctly labeled and stored in cabinets separate and apart from foods, food additives or ingredients.

**C. Pest Control Information Log Book**

Every food establishment required to be licensed under chapter 4-8 of the Municipal Code of Chicago shall maintain a log book on its premises containing the following pest control information:

- (1) A record of any and all visits to the food establishment by any pest control company describing all pest control-related activities conducted, including inspections and applications of pesticides and or other methods to control pests;
  - (a) All food establishments shall contract with a licensed exterminator who shall provide insect and vermin services at the establishment at least twice a year.
- (2) The log book record shall include a copy of the service ticket that sets forth the pest control company's Illinois Department of Health license number, and all information required by Section 830.820 of the Illinois Administrative Code:
  - (a) Written verification (i.e. signature and certification number) of the certified technician responsible for using pesticides, or overseeing the use of pesticides by non-certified personnel;
  - (b) Date of application;
  - (c) Specify the pest that is being targeted;
  - (d) Pesticide use recorded in the following manner:
    - (i) Brand or common name
    - (ii) USEPA Registration Number
    - (iii) Percent active ingredient in the finished product
    - (iv) An estimate of the amount of finished product used
- (3) A record of all locations of all applications of pesticides, trap and monitoring stations placed or monitored during the inspection; and
- (4) A record of any recommended corrective action needed to eliminate the condition, such as housekeeping deficiencies, pest harbourages, or structural deficiencies.

All information in the log books shall be kept for a period of twelve months.

## **Construction and Maintenance of Building Facilities**

### **A. Floors**

The floors of locker rooms, toilet rooms and rooms in which food or drink is stored or prepared, or in which utensils are washed, shall be smooth and have such construction as to be easily cleaned, and shall be kept clean and in good repair. If floor drains are used, the floor shall be graded to the drain, and such drain shall be provided with proper traps so constructed as to minimize clogging. All floors shall be kept free and clean from litter. Dustless methods of floor cleaning shall be used, or dust-arresting sweeping compounds and push-brooms shall be employed. All, except emergency floor cleaning, shall be done during those periods when the least amount of food and drink is exposed. Such places shall not be so dusted or swept that dust will settle on food that is exposed. Dry sweeping in such places is prohibited. The use of carpeting shall be exclusively limited to dining area and shall be kept clean.

### **B. Walls and ceilings**

Walls and ceilings of all rooms in which food or drink is stored, sold, prepared, cooked, or in which utensils and equipment are washed shall be clean, non-absorbent, smooth, washable and shall be painted or finished in light color. The walls and ceilings shall be in good repair and easily cleaned. Walls and ceilings in all dining areas, locker rooms and toilet rooms shall be kept clean and in good repair. **NOTE:** In all establishments hereinafter constructed or in which extensive remodeling of the food preparation areas is done, the floor and wall junction shall be provided with a four (4) inch cove.

### **C. Lighting**

All rooms in which food or drink is prepared, or in which utensils are washed, shall be well lighted so that a minimum of 50 foot-candles of light is available on all working surfaces of such rooms. A minimum of 20 foot-candles of light shall be provided at a distance of 30 inches from the floor of all rooms used for the storage of food. A minimum of 20 foot-candles of light shall be provided in locker rooms, dressing rooms and toilet rooms. Shielding to protect against broken glass falling into food shall be provided for all artificial lighting preparation, service, and display facilities, and facilities where utensils and equipment are cleaned and stored. During all clean-up operations, adequate light shall be provided in the dining room or other areas being cleaned.

### **D. Ventilation**

The kitchen in all food establishments shall have adequate ventilation, and the air flow shall always be from the dining room through the kitchen. The flow air discharged from kitchen fans shall always be through a duct to a point above the roof line. Ranges and fryers shall be hooded so that the cooking odors may be effectually carried off by a stack, an exhaust fan, or skylight immediately above. Hoods shall be so designed to prevent grease and condensate from dripping into food or on food preparation areas. Filters, if used, shall be readily removable for cleaning.

Dressing rooms shall be provided with ventilation to the outside air or shall be mechanically ventilated. All ventilation systems shall comply with applicable requirements of the ventilation and fire prevention codes of the City of Chicago, and shall be so vented to the outside air in such a manner as not to create a nuisance.

### **Miscellaneous Areas and Rules**

#### **A. Dressing rooms and lockers**

Adequate facilities shall be provided for the orderly storage of employees' clothing and personal belongings. Where employees routinely change clothes within the establishment, a dressing room shall be provided for this purpose. Such area shall be located outside of the food preparation, storage, and the utensil washing and storage areas, provided that, when approved by the Department of Health, such an area may be located in a storage room where only completely packaged food is stored. Soiled linens, coats and aprons shall be kept in washable containers provided for that purpose and stored so as not to create a nuisance.

#### **B. Miscellaneous housekeeping rules**

Cleaning operations shall be conducted in such a manner as to minimize contamination of food and food-contact surfaces. The traffic of unnecessary persons through the food preparation and the utensil washing areas is prohibited.

No live birds or animals shall be allowed in any area used for the conduct of the food establishment operations. This exclusion shall not apply to guide dogs accompanied by a blind person in a dining area.

All parts of the food establishments and all parts of the property used in connection with the operation of the establishment shall be kept neat, clean and free of litter, rubbish and offensive odors. Walking and driving surfaces of all exterior areas of food service establishments shall be surfaced with concrete or asphalt to minimize dust and to facilitate maintenance. These surfaces shall be drained and kept clean. Yards, basements, or other areas directly connected with, or in close proximity to, the establishment shall be kept clean.

None of the operations connected with a food establishment shall be conducted in any room used as living or sleeping quarters.

Mops, brooms, brushes, pails and other cleaning equipment shall be properly stored separately away from food, utensils, equipment or clean linens.

All liquid waste water resulting from cleaning and maintenance of floors, walls, ceilings, windows and other structural facilities shall be properly disposed of into plumbing facilities which are not used for the washing of food, hands or the washing and sanitizing of utensils. In all new food establishments hereinafter constructed, a separate utility sink shall be provided for the cleaning of maintenance equipment and for the proper disposal of liquid waste resulting from "cleaning up" operations.

**C. Storage of and use of poisonous and toxic substances**

Only such poisonous and toxic materials as are required to maintain sanitary conditions and for sanitization purposed may be used in food establishments. Poisonous and toxic materials shall be identified and shall be used only in such a manner and under such conditions as will not contaminate food or constitute a hazard to employees and customers. These materials shall be stored in rooms or cabinets other than those used for the storage of foods or utensils.

**Manufacture and Sale of Frozen Ice Cream, Frozen Ice Milk  
or Frozen Desserts in Food Establishments**

**A. General**

No food establishment shall install or maintain any ice cream freezer, ice milk freezer or frozen dessert freezer unless all following provisions have been met.

**B. Plans**

Plans for the installation of each ice cream, ice milk, or frozen dessert freezer shall be submitted to the Department of Health for approval prior to the operation of the unit.

**C. Unit inspection**

The freezer unit shall have been inspected and approved for use by the Department of Health prior to its installation.

**D. Spigot protection**

Soft serve, self-service freezer spigots shall be protected by an approved protective enclosure.

**E. Approved product**

Completely pasteurized ice cream mix, ice milk mix and other frozen dessert mix shall be obtained from a source approved by the Department of Public Health. Containers shall be sealed and correctly tagged with name of pasteurizing source showing permit or authorization number of data of pasteurization, provided that frozen ice or frozen ice drink shall be made with potable water and concentrates from approved sources.

All mixes shall be refrigerated immediately when received. Such mixes shall be stored in refrigerators having a temperature of not over 40°F.

All ice cream mix, ice milk mix and frozen desserts shall be frozen not later than nine days from the date of pasteurization as shown by the date on the tags or labels in accordance with the provisions of Chapter 7-40 of the Municipal Code of Chicago. This requirement shall not apply to Frozen Cultured Products.

All ice milk mix or frozen dessert mix, once removed from the original dairy filled container, shall not be returned to the said original container.

All mixes once placed into the freezing unit and subsequently removed for the purpose of washing and sanitizing of the unit, shall not be re-frozen. Ice cream, ice milk or other frozen desserts stored, sold or offered for sale, or kept with the intention of selling shall not contain an excessive number of bacteria.

**F. Approved sanitizing requirement**

Prior to the approval of the use of an approved ice cream, ice milk or other frozen dessert freezer, provision must be made in the food establishment for washing and sanitizing such a unit and its removable parts to be accomplished as prescribed in the following section.

A three (3) compartment metal sink of sufficient size to permit the complete immersion of all of the component parts of the freezer must be provided with sufficient hot and cold water under city pressure. Hot and cold water under city pressure shall be provided at the freezer unit for the purpose of washing and sanitizing of all non-removable food contact surfaces of the freezer unit and sanitizing of re-assembled freezer parts. Hot water is defined as being at least 180°F where used as sanitizing agent.

All food establishments currently using an approved two (2) compartment sink for washing and sanitizing multi-use eating and drinking utensils, shall be permitted to continue such use until such time as the sink is in need of repair and replacement. All said replacements shall be by installation of an approved three (3) compartment sink.

Provided further, that where there is a three (3) compartment sink for the use of washing and sanitizing of freezer parts, an approved chemical sanitizer may be used instead of 180°F water. The sink must be washed and sanitized prior to use.

Provided further, that bactericidal treatment of the non-removable food-contact surfaces, and the assembled washed and sanitized freezer parts, may be accomplished by the use of an approved chemical sanitizing solutions instead of 180°F water.

Wherein a food establishment has an approved dishwashing machine method of washing and sanitizing procedure of multi-use eating and drinking utensils, such a procedure may be used to wash and sanitize the component part of the freezer unit.

After re-assembly of the freezer, the unit must be properly sanitized by the use of 180°F hot water or an approved chemical sanitizer.

All equipment, containers, and utensils shall be thoroughly cleaned and sanitized with 180°F water or approved chemical sanitizer after each day's freezing operation. The freezer shall also be sanitized just prior to starting the freezer operation. Chlorine solutions containing at least one hundred parts per million available chlorine shall be used for supplementary sanitization.

No cloths of any kind shall be used to wipe off the equipment or containers after sanitation. The outside of the freezer and top of the cabinet shall be kept clean at all times.

#### **IV. Food Personnel**

- A. All persons who are employed in any capacity on a mobile food dispensing vehicle or in a food commissary shall wash their hands thoroughly in an approved handwashing facility using warm water and a suitable soap or detergent, rinsing and drying with sanitary toweling or an approved drying device before starting work, as often as necessary, to maintain a high degree of personal cleanliness and to conform to hygienic practices while on duty.
- B. All employees shall wash their hands after using toilet facilities, after handling garbage, unclean utensils and/or other contaminating conditions. The washing of hands in a utensil washing sink is prohibited.
- C. All persons who are employed in any capacity on a food dispensing vehicle shall wear garments, suits, or dresses which are clean and of a washable character and nature.
- D. All such employees entering food processing areas or who sell food on mobile food dispensing vehicles shall be required to use hair nets, head bands, caps, or other effective hair restraints to confine short or long hair.
- E. Employees of food commissaries shall consume food only in designated dining areas that are not used for the preparation of food or the washing and storage of utensils.
- F. Employees shall not expectorate, or use tobacco in any form, while engaged in food preparation or sales, not in any room in which food is prepared, or room used for the washing of equipment or utensils.

### **Chicago Board of Health Rules and Regulations Pertaining to the Operations of Automatic Food Vending Machines**

#### **I. General**

All commissaries engaged in the preparation and packaging of foods for sale to the consumer through automatic food vending machines shall comply with all the provisions of the Municipal Code of Chicago, Chapter 7-38, and the Rules and Regulations of the Board of Health pertaining to food establishments.

#### **II. Vending Machines Sales of Foods**

- A. Potentially hazardous food offered for sale through vending machines shall be dispensed to the consumer in the immediate original container or wrapper into which it was placed at the commissary or at the manufacturer's plant.
- B. All potentially hazardous bulk food products shall be dispensed into single-service containers from bulk containers which were filled at the commissary or at the manufacturer's or processor's plant.
- C. In those vending machines which dispense potentially hazardous food from bulk, supplies of

such food shall be transferred only to bulk vending machine containers and appurtenances which have been cleaned and sanitized.

- D. All bulk container washing, sanitizing and filling shall take place only within the food service area of the commissary, manufacturer, or processor's plant.
- E. Temperatures of potentially hazardous food products within the vending machine shall be maintained at a temperature of 40°F or below, or 140°F or above, whichever is applicable: Provided, that exceptions may be made for (a) the actual time required to load or otherwise service the machine and for a maximum recovery period of 30 minutes, following completion of loading or servicing operation; and (b) in the case of hot food vending machines, a maximum of 60 minutes to heat food through the 40°F to 140°F temperature zone. In hot food vending machines which are not equipped with refrigerated storage, there shall be no time delay to preclude heat from being applied to potentially hazardous food immediately after it is loaded or placed in the machine. Potentially hazardous food once heated to, or held at, a temperature of 140°F or above, shall be maintained at such temperature until served or discarded.

### **III. Food Vending Precautionary Measures**

- A. Machine Controls - Vending machines dispensing potentially hazardous food shall be provided with adequate refrigerating or heating units, or both, and thermostatic controls which insure the maintenance of applicable temperatures at all times. Such vending machines shall also have controls which prevent the machine from vending potentially hazardous food until serviced by the operator in the event of power failure or other condition which results in non-compliance with temperature requirements in the food storage compartment. Such servicing shall include removal and discarding of all potentially hazardous foods subjected to improper temperatures due to power failure. Hot food vending machines designed to heat food through the 40°F. to 140°F temperature range shall also be equipped with automatic controls which render the machine incapable of vending potentially hazardous food until serviced by the operator in the event that heating through this temperature range is not accomplished in 60 minutes or less.
- B. Thermometers - Vending machines dispensing potentially hazardous food shall be provided with one or more thermometers with an accuracy of +/- 2°F which indicates the air temperatures of the warmest part of the refrigerated food storage compartment, or the coldest part of the heated storage compartment, whichever is applicable.

### **IV. Food Vending Machine Location**

- A. The floor area where the vending machines are located shall be reasonably smooth of cleanable construction, and be capable of withstanding repeated washing and scrubbing. This space and the immediate surroundings of each vending machine shall be maintained in a clean condition.
- B. Adequate handwashing facilities, including hot and cold or tempered running water, soap and

individual towels, shall be convenient to the machine location and shall be available for use by employees servicing or loading bulk food machine.

- C. In all vending machines in which the condenser unit is an integral part of the machine, such unit when located below the food and container storage space shall be separated from such space by a dustproof barrier, and when located above, shall be sealed from such space.
- D. Unless the vending machine is sealed to the floor or counter so as to prevent see page underneath, or can be manually moved with ease, one or more of the following provisions shall be utilized to facilitate cleaning operation: (i) the machine shall be designed and installed with legs or side panels which provide and unobstructed clearance of six (6) inches between machine base and floor; provided, that counter-type machines may use 4-inch legs' or (ii) the machine shall be mounted on caster or roller; or (iii) the machine shall be mounted on the gliders which permit it to be easily moved. Judgment on the method used shall be based upon the ability of the operator to maintain the floor around and under the machine in a sanitary condition.
- E. All service connections through an exterior wall of the machine, including water, gas, electrical, and refrigeration connections shall be grommeted or closed to prevent the entrance of insects and rodents. All service connections to machines vending potentially hazardous food or food in bulk shall be such as to discourage their unauthorized or unintentional disconnection.
- F. The non-food-contact surfaces of the interior of vending machines shall be so designed and constructed as to permit easy cleaning, and to facilitate maintenance operations. Inaccessible surfaces or areas shall be minimized.
- G. All non-food-contact surfaces of vending machines shall be smooth, in good repair, and free of breaks, corrosion, open seams, cracks, and chipped places. The design of such surfaces shall be such as to preclude routine contact between food and V-type threaded surfaces. All joints and welds in food-contact surfaces shall be smooth; and all internal angles and corners of such surfaces shall be rounded to facilitate cleaning.
- H. All food-contact surfaces of vending machines, including containers, pipes, valves, and fittings shall be constructed of non-toxic, corrosion-resistant, and relatively nonabsorbent materials, and shall be kept clean. In all vending machines in which carbon dioxide is used to propel water, food, or other ingredients, all food-contact surfaces in the system shall be of such material as to preclude the production of toxic substances which might result from interaction between the carbon dioxide and food-contact surfaces. All food contact surfaces, unless of approved design and construction for in-place cleaning, shall be accessible for manual cleaning and inspection: (i) without being disassembled; (ii) by the use of only simple tools such as a screw-driver or an open-end wrench.
- I. In machines of such design that food-contact surfaces are not readily removable, in-place cleaning of such surfaces may be permitted: Provided, that (i) they are so arranged that cleaning and sanitizing solutions can be circulated throughout the fixed system: (ii) such solutions will contact all food-contact surfaces: (iii) the system is self-draining or otherwise completely evacuated; and (iv) the procedure utilized can demonstrate that results of bacteriological tests are in compliance with the standards as indicated in the food establishments Rules and Regulations of the Board of Health.
- J. The openings into all non-pressurized containers used for the storage of vendable food,

including water, shall be provided with covers which prevent contamination from reaching the interior of the containers. Such covers shall be designed to provide a flange which overlaps the opening, and shall be sloped to provide drainage from the cover wherever the collection of condensation, moisture, or splash occurs. Concave covers or cover areas are prohibited. Any port opening through the cover shall be flanged upward at least three-sixteenths of an inch, and shall be provided with an overlapping cover flanged downward. Condensation, drip, or dust deflecting aprons shall be provided on all piping, thermometers, equipment, rotary shafts, and other functional parts extending into the food container, unless a water-tight joint is provided. Such aprons shall be considered as satisfactory covers for those openings which are in continuous use. Gaskets, if used, shall be of material which is non-toxic, relatively stable, and relatively non-absorbent, and shall have a smooth surface. All gasket retaining grooves shall be easily cleanable.

- K. The delivery tube or chute and orifice of all bulk food and bulk beverage vending machines shall be protected from normal manual contact, dust, insects, rodents and other contamination. The design shall be such as to divert condensation or other moisture from the normal filling position of the container receiving the food or beverage. The bending stage of such machines shall be provided with a tight-fitting, self-closing door or cover which is kept shut, except when food is being removed.
- L. The food storage compartment within vending machines dispensing packaged liquid food shall be so constructed as to be self-draining, or shall be provided with a drain outlet which permits complete draining of the compartment. All such drain outlets shall be drained by indirect or broken connection to sewer; provided, however, that where sewer connections are not available, clean, adequate watertight drip pan may be used, or the drainage shall be disposed of in a manner approved by the Department of Public Health.
- M. Opening devices which come into contact with the food or the food-contact surface of the containers shall be constructed of smooth, nontoxic, corrosion-resistant, and relatively nonabsorbent materials. Unless the opening device is a single-service type, it shall be readily removable for cleaning, and shall be kept clean. Parts of multi-use opening devices which come into contact with the food or food-contact surfaces of containers shall be reasonably protected from manual contact, dust, insects, rodents, and other contamination; and such parts shall be readily removable for cleaning.

## **Chicago Board of Health Rules and Regulations Pertaining to Sanitation Practices Involving The Operation of Coffee Carts**

### **Coffee Cart Requirements**

Every coffee cart used by a food dispenser in conducting business shall comply with the following requirements:

- A. The coffee cart vehicle shall be enclosed with bottom, top and sides.
- B. The interior floor, walls and ceiling of each vehicle shall be of smooth, not readily corrodible, impervious material capable of withstanding repeated washing and scrubbing and shall be finished in a light color. Each vehicle shall be well-painted, in good repair, in good sanitary

condition, and shall not be used for any other purpose except as provided in this section.

- C. The food service sections of the vehicle shall be insect and rodent proof.
- D. The name, address and coffee cart license number shall appear on both sides of the vehicle in letters at least three inches in height, in contrasting color.
- E. All food service equipment utilized in the cart operation shall be of easily cleanable construction and shall be maintained in good repair and shall be clean.
- F. Applicants for a license, under this section, who are located outside of the jurisdiction of the Department of Public Health, may obtain a license from the City of Chicago provided that the vehicle does comply with the above-mentioned requirements and the applicant does dispense foods which are prepared and wrapped in a commissary which does conduct its operations under the supervision of state or local health authority, provided further that the ordinance regulating same is substantially equivalent to this section. The applicant shall, in addition to the application, provide reports including inspection reports and laboratory results from the state or local health authority in the jurisdiction where the food source or commissary is located, indicating compliance with such provisions.

## **I. Preparation and Service of Food and Drink**

### **General Rules**

- A. All applicable sections of the rules and regulations of chapter 7-38, 7-40, of the municipal code shall be in force at all times. No food service as defined in the chapter on "coffee carts" shall be permitted al-fresco.
- B. No food other than individual portions that are totally enclosed in a wrapper or container and which have been manufactured, prepared or wrapped in a food establishment licensed by the city or a food establishment which is operating under the state of local health authority, and provided the ordinance regulating same is substantially equal to this chapter, shall be sold or served from or by a coffee cart vendor. **Exceptions:** Coffee or sugar which is served only in a covered closed pouring-spout type container, or in any other manner approved by the Department of Public Health, which is effective in preventing intentional or unintentional contamination by the public.
- C. Milk and Milk Products - All milk and milk products shall be served only in the individual containers in which the product was filled in a Grade A milk plant holding a Chicago Board of Health permit, or authorized number.
- D. Information Required on Wrapper - All individually wrapped portions of perishable food products, including bakery goods, muffins and other similar portions shall be plainly marked by the manufacturer on the wrapper or container in such a manner as to plainly identify the day and the month of which such individual portion was prepared and wrapped in an establishment approved by the Department of Health as herein before provided. The name and address of the establishment processing or manufacturing and wrapping portions of perishable food products shall appear on each individual portion.
- E. No person shall keep or offer for sale individual portions of perishable food products which have been re-wrapped or repackaged or portion of which the identifying date on the wrapper has been altered, disfigured or changed in any manner.

- F. Single-Service Food Utensils - Only single-service food utensils shall be used. All single-service food utensils such as cups, straws, knives, forks, spoons and stirrers shall be individually wrapped, kept in a clean place, properly handled and shall be used only once. All cups and containers for bulk drinks shall be stored in closed cartons and served from dispensers which protect their rims from contamination by customers, dust, dirt or flies.
- G. Storage Provisions - All perishable food products shall be stored as provided in this chapter or as provided by rules and regulations established by the Board of Health until served to the customer.
- H. Refuse Receptacles - The operator shall maintain a suitable, tight, non-absorbent washable receptacle for refuse. He shall be responsible for sanitation of the environs of the place of operation. Said refuse receptacle shall be adjacent to, but not an integral part of, the cart food holding or preparation area and shall be kept covered.

## **II. Sinks, Water Storage Tanks and Other Plumbing Requirements**

All coffee cart dispenser vehicles shall be equipped with a hand washing sink and an adequate supply of running hot water. The hot water storage tank shall be self-draining and cleaned and flushed not less than twice in each six-month period. Liquid waste from the hand washing sink shall be piped in fixed piping to a waste water retention storage container or tank of adequate size (not less than 15% larger than the supply tank) and not located in food storage or food serving sections of the vehicle. The connection between piping from sink and waste water container shall be tight-fitting and comply with the plumbing provisions of this code. The waste water tank or container shall be emptied daily or more often if necessary, and only into a sanitary drainage facility in a manner and place approved by the Department of Public Health.

### **Smoking and Curing**

#### **A. Introduction**

Meat and poultry are cured by the addition of salt alone or in combination with one or more ingredients such as sodium nitrite, sugar, curing accelerators, and spices. These are used for partial preservation, flavoring, color enhancement, tenderizing and improving yield of meat. The process may include dry curing, immersion curing, direct addition, or injection of the curing ingredients.

The preparation of curing mixtures must be carefully controlled:

1. The maximum residual sodium nitrite in the finished product is limited to 200 PPM by the USDA Food Safety and Inspection Service (FSIS).
2. A sodium nitrite concentration of 120 PPM usually sufficient for most purposes. Specific requirement for added nitrite may be found in USDA regulations, 9 CFR 318 and 381.
3. Curing methods shall achieve uniform distribution of the curing mixture in the meat or poultry product.

#### **B. Incorporation of cure ingredients**

Regardless of preparation method, cure ingredients must be distributed throughout the product. Cure ingredients may be introduced into sausage products during mincing or comminution. Proper and thorough mixing is necessary whether the cure is added to the formulation in dry or solution form. Muscle cuts may be cured by immersion into a curing (pickle) solution. These methods are slow to diffuse curing agents through the product. Products must be properly refrigerated during immersion curing.

Several methods may be used to shorten curing times. These include hot immersion curing greater than 49°C (>120°F), injection by arterial pumping (e.g., hams), and stitch pumping by a series of hollow needles. If the injection method is used, injection needles must be frequently monitored during this operation.

Tumbling or massaging may also be used as an aid to hasten curing. Proper sanitation must be observed to prevent contamination during this operation.

The dry curing method, a similar process, may also be used. In this case, curing ingredients are rubbed over cuts and surfaces of meat held under refrigeration. Precautions must include wearing sanitary gloves when meat is handled. Product temperature is critical.

### **C. Smoking**

Smoking is the process of exposing meat products to wood smoke. Depending on the method, some products may be cooked and smoked simultaneously, smoked and dried without cooking, or cooked without smoking.

Smoke may be produced by burning wood chips or using an approved liquid smoke preparation. Liquid smoke preparations may also be substituted for smoke by addition directly onto the product during formulation in lieu of using a smokehouse or another type of smoking vessel. As with curing operations, a standard operating procedure must be established to prevent contamination during the smoking process.

### **D. Fermentation and dehydration**

Meat may be fermented or dehydrated for preservation. The purpose of fermentation is to reduce the pH to below 4.6 and inhibit bacteria harmful to health as well as bacteria which can cause spoilage. Meat products may also be cured and then dehydrated to prevent germination and growth of bacterial spores. Many fermented and dehydrated meats are made without a cooking step. Sanitary practices in the production of these products are extremely important because *Staphylococcus aureus* can be introduced. Processed pork products require treatment to destroy *Trichinella spirilla*. At retail, products which contain raw pork and which are not subsequently cooked must be produced from trichina-free pork or treated to destroy trichina.

Some fermented and dry cured products are processed without cooking. The labeling for these products should include instructions to the consumer to cook thoroughly before consumption.

### **E. Curing of meat and poultry**

1. No food service establishment shall cure meat and/or poultry on the premises of the food service establishment without prior written approval from the Chicago Department of Public Health, Food Protection Division. The application shall be product specific.
2. A list of products approved for curing by the Department shall be prominently posted in the processing area of the establishment.
3. Employees assigned to cure meat or poultry must complete a training course developed by the food service establishment or private consultants and demonstrate familiarity with the potential hazards associated with the curing of foods. Training must also include full understanding of HACCP.
4. Designate a "Responsible Person in Charge" who will determine the action to be taken if there is a deviation from the process that has been approved by the Chicago Department of Public Health, Food Protection Division.
5. An approved HACCP plan is required for all curing operations. The following criteria must be met to cure meat and poultry products in an establishment.
  - a. The following Critical Control Points must be addressed:
    - i. Purchase of prepared cure mix.
    - ii. If cure mixes are blended on the premises, mixing must be carefully controlled by using calibrated weighing devices.
    - iii. Cure ingredients must be stored in a dry location. Cure must be discarded if the package is wet or appears to have been wetted.
  - b. Raw Material Handling
    - i. Thawing must be monitored and controlled to ensure thoroughness and to prevent temperature abuse. Improperly thawed meat could cause insufficient cure penetration. Temperature abuse can cause spoilage or growth of pathogens.
    - ii. Meat must be fresh. Curing may not be used to salvage meat that has excessive bacterial growth or spoilage.
  - c. Formulating, Preparation and Curing
    - i. A formulation and preparation procedure must be documented.
    - ii. All equipment and utensils must be cleaned and sanitized.
    - iii. Pieces of meat or poultry must be prepared to uniform sizes to ensure uniform cure penetration. This is extremely critical for dry and immersion curing.
    - iv. Calibrated and certified scales with decals affixed indicating that the scales have been calibrated and certified.
    - v. A schedule or recipe must be established for determining the exact amount of curing formulation to be used, using only pre-measured and weighed packets, for a specified weight of meat or meat mixture.
    - vi. Methods and procedures must be strictly controlled to ensure uniform cure.
    - vii. All surfaces of meat must be rotated and rubbed at intervals of sufficient frequency to ensure cure penetration when a dry curing method is used.
    - viii. Immersion curing requires periodic mixing of the batch to facilitate uniform curing.

- ix. The application of salt during dry curing of muscle cuts requires that the temperature of the product be strictly controlled between 35°F and 45°F. The lower temperature is set for the purpose of ensuring cure penetration and the upper temperature is set to limit microbial growth.
- x. Curing solutions must be discarded daily unless they remain with the same batch of product during its entire curing process.
- xi. Injection needles must be inspected for plugging when stitch pumping or artery pumping of muscle cuts is performed
- xii. Sanitary casings must be provided for sausage, chub or loaf forming.
- xiii. Casings may not be stripped for reuse in forming additional chubs or sausages from batch to batch.

**d. Cooking and Smoking**

- i. Cooking and smoking shall be done according to the rules and regulations pertaining to the cooking of potentially hazardous foods, smoked meat, poultry or other food products.

**e. Cooling**

Cooling must be done according to the rules and regulations. Written cooling procedures must be established.

- i. Chill water containing at least 50 PPM chlorine must be used in water sprays or immersion chilling which comes in direct contact with products in casings or products cooked in an impervious package.
- ii. Chill water temperature must be monitored and controlled.
- iii. Chill water may not be reused until properly chlorinated. Reclaimed chill water must be discarded daily.
- iv. Product must be placed in a manner that allows chilled water or air to uniformly contact the product for assurance of uniform cooling.
- v. Internal temperatures must be monitored during cooling by using calibrated temperature measuring devices.
- vi. Adequate cooling medium circulation must be maintained and monitored.
- vii. Temperatures of the cooling medium must be monitored and recorded in accordance with a written procedure.
- viii. Handling of product must be minimized during cooling, peeling of casing, and packaging. Sanitary single service gloves must be used in these procedures.

**f. Fermentation and Drying**

- i. Temperature and time must be controlled and logs must be maintained that record the monitoring of this process.
- ii. Humidity must be controlled by use of a humidistat. Monitoring of the process must be recorded in a written log.
- iii. Product must be kept separated to allow adequate air circulation during the process.
- iv. Use of an active pure culture must be ensured to affect a rapid pH drop of the product. Use of commercially produced culture is necessary and the

- culture must be used according to the manufacturer's instructions.
- v. Determination of the pH of fermented sausages at the end of the fermentation cycle must be recorded.
  - vi. Handling of products must be minimized and only done with sanitary gloves or sanitized utensils.
  - vii. Dry (unfermented) products may not be hot smoked until the curing and drying procedures are completed.
  - viii. Semi-dry fermented sausage must be heated after fermentation to a time/temperature sufficient to control growth of pathogenic and spoilage organisms of concern.

**F. Dedicated area/Restricted access**

1. All aspects of curing operations must be conducted in an area specifically designated for this purpose. There must be an effective separation to prevent cross contamination between raw and cooked foods or cured and uncured foods.
2. Access to processing equipment shall be restricted to responsible trained personnel who are familiar with the potential hazards inherent in curing foods.
3. Any records required in this section must be retained by the food service establishment for at least 6 months.

**Refrigerated Foods in Reduced Oxygen Packaging  
Modified Atmosphere/Controlled Atmosphere Packaging**

**I. Introduction**

The practice of packaging food in a reduced or modified oxygen atmosphere at the retail level requires strict adherence to elements of a Hazard Analysis Critical Control Point (HACCP) plan previously approved by the City of Chicago Department of Public Health Food Protection Division. This plan must be compatible with existing industry and regulatory capabilities yet be able to ensure safe food products for the consumer.

Extending the shelf life of perishable product provides retailers with a way to cut costs, increase efficiency, overcome labor shortages and provide a more attractive commodity to the consumer. On the other hand, retailers must also acknowledge that products which they package in reduced oxygen may pose a serious public health threat, particularly when the food does not usually exhibit the traditional symptoms of spoilage relied upon by consumers. Anaerobic pathogens may proliferate even when indicator or spoilage aerobic organisms are inhibited by the lack of oxygen within such packaging.

Control parameters for any type of modified atmosphere packaging at the retail level must overcome the essential differences between the traditional processing plant and the traditional retail food establishment. The retail food industry has little experience with low acid food processing or flexible packaging systems. The misleading simplicity of the vacuum packaging operation overshadows the potentially deadly consequences of even a single mistake in the process of modified atmosphere food packaging.

The retail food establishment is frequently staffed with relatively unskilled personnel and experiences a high turnover rate. Estimates range from 50-100% annual turnover for managers and 300-400% turnover for employees. These two problems coupled with a lack of dedicated equipment and incomplete procedures to prevent cross-contamination in the retail establishment, lead to the tremendous potential for deviation and failure. A much more stringent oversight system must be incorporated into such retail operations like delicatessens, meat departments and food service establishments that intend to use reduced or modified oxygen packaging.

An individualized HACCP program and multiple barrier requirements are paramount in assuring the safety required to produce products utilizing technology at the retail level. A facility that complies with these stringent requirements demonstrates that the entire modified atmosphere food process and the associated dangers have been considered. The HACCP program is actually a comprehensive quality control plan. It forces the operators to consider the entire operation and the necessary safety controls before beginning the process.

New considerations for retail reduced oxygen packaging not usually a part of the retail food program are included here. Submission of a comprehensive HACCP program, detailed in the accompanying rules, must be made by the retail facility. Prior written approval of the process or procedure for that specific facility must be provided by the Chicago Health Department Food Protection Division. Multiple safety barriers including refrigeration need to be in place because of the high probability that product abuse will occur between processing and consumption. Specific labeling statements, including "Keep Refrigerated" or "Keep Frozen" and a restricted "Use By" date, alert consumers to these safety precautions. A dedicated reduced oxygen packaging work area with restricted access helps retailers control cross-contamination. And most importantly, employee training that not only demonstrates operational requirements but addresses the specific hazards and concerns of reduced or modified oxygen packaging of refrigerated foods must be a part of the store operation. While reduced or modified packaging at the retail level presents certain dangers, adherence to these rules will significantly reduce the risks for specific classes of foods.

## **II. Prior written approval required**

- A.** Each retail food establishment location shall obtain written permission from the Chicago Health Department Food Protection Division before packaging foods in a reduced or modified oxygen atmosphere. Reduced or modified oxygen packaging shall consist of cook-chill processing, vacuum packaging, modified atmosphere packaging (MAP) or controlled atmosphere packaging (CAP). The request from the retail establishment and approval from the regulator shall be product specific and shall be issued according to the conditions listed in this article. Directions to complete the application are included in this manual.
- B.** The application must include a complete list of foods which will be packaged in a reduced or modified oxygen atmosphere.

**III. Inspections and inspection reports and penalties for non-compliance**

Reduced oxygen packaging food products in retail food establishments shall comply with the requirements of this part.

- A. Foods not properly packaged or packaged in a reduced oxygen atmosphere without prior approval from the Health Department are subject to embargo and or destruction.
- B. Permission to operate may be suspended for refusal by the retail food establishment to allow the regulatory agency access to all records and manuals pertaining to the processing and packaging operation.

**IV. Acceptable products**

- A. Foods from the Acceptable Products List below may be packaged under reduced oxygen conditions if a letter of guarantee from the product manufacturer verifying the safety barrier is available at the retail food store or food service establishment.

<p><b>Cured Meats</b></p> <p>Alessandri Salami  Bacon  Bacon Country Style  Basterna  Beef Bacon  Beef Dried  Beef Jerkey  Beerwurst  Berliner  Berliner Blood Sausage  Biere Schinken  Blood Sausage  Bohemian Peesky  Bologna  Bologna Loaf  Braunschweiger  Bratwurst  Calabrese  Canadian Style Bacon  Capacola  Cervelat  Cheesefurter  Chopped Ham  Chorizos  Chourico  Cocktail Frankfurters  Cooked Ham  Cooked Salami  Coppa  Corned Beef  Cotto Salami  Cottage Butt  Cured Beef Tongue  Daisy  Devilled Ham  Dixie Bacon Squares  Faggots  Fleisch Kaese  Frankfurters</p>	<p>Ham Patties  Ham Sausage  Ham Dogs  Italian Style Sausage  Kielbasa  Knackwurst  Knockwurst  Knockblauch  Kobasica  Koro  Krakow  Linguica  Liver Sausage  Liverwurst  Longaniza (Cured)  Luncheon Meat  Minced Ham Loaf  Minced Luncheon Sausage  Mortadella  New England Sausage  Pancetta  Pastrami  Pigs Feet (Cured)  Pizza Sausage  Polish Sausage  Pork Roll  Poultry - Certain Traditionally  Cured Beef Products made  with Poultry Meat  i.e. Turkey Ham, Chicken  Bologna, etc. Poultry  Sausage Pressed Ham Ring  Bologna Salami-Cooked  Salami-Beef Salami-Cotto  Salami-Poultry</p>	<p><b>Meats-Cured or otherwise  controlled by a<sub>w</sub> , or by  drying</b></p> <p>Aries Sausage  Apennino Sausage  Beef Dried  Basterna  Beef Jerky  Blockwurst  Cervelat  Chorizos  Coppa  Dry Sausage  Dried Beef  Dry Salami  Genoa Salami  Goteburg  Italian Style Salami  Kippered Beef  Land Jaeger Cervelat  Lebanon Bologna  Lyons Sausage  Metz Sausage  Milan Sausage  Mortadella  Parma Ham  Pepperoni  Salami  Sarno Soppressata  Summer Sausage  Thuringer</p> <p><b>Cheeses-Fermented Foods</b></p> <p>Brick  Cheddar  Colby  Edam  Gouda</p>
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## **B. Lists of acceptable products**

1. A list of products approved by the Food Protection Division for reduced or modified oxygen packaging shall be posted in the processing area along with a warning against packaging unapproved foods.
2. For those approved products which have been inspected by the Illinois or U.S. Department of Agriculture there must be on file a letter of guarantee stating the ingredients of the product and what secondary barriers against bacterial growth are included along with the concentrations of these secondary barriers. Certain foods have intrinsic factors that prevent or reduce the rapid and progressive growth of infectious or toxigenic microorganisms or the slow growth of *Clostridium botulinum*. These factors vary by product but can include water activity ( $a_w$ ), hydrogen ion concentration (pH), high levels of non-pathogenic competing organisms (fermented products), or cured meat or poultry products (Inspected by the Illinois or U.S. Department of Agriculture) with a nitrite level of at least 120 PPM and a minimum brine level of 3.5%. Foods with high levels of non-pathogenic competing organisms (harmless bacteria that prevent the out-growth of pathogens) such as raw meat, fermented natural hard and semi-soft cheeses containing live starter culture organisms or fermented sausages may be packaged under reduced or modified oxygen. Frozen foods which do not meet any other safety barriers may be packaged under reduced or modified oxygen provided they are maintained in a frozen state and are conspicuously labeled "**IMPORTANT**" - **Must be Kept Frozen.**" If an establishment is able to supply adequate safety data about a specific food, approval may be granted to package that product under reduced or modified oxygen atmosphere at retail (Refer to sections of Safety Barriers And Safety Barrier Verification).
3. In conclusion the establishment shall:
  - a. Post a list of foods approved by the Chicago Public Health Department for reduced oxygen packaging in the Packaging Area.
  - b. Include a warning statement that unapproved foods may not be packaged under reduced oxygen conditions and may be subject to embargo and/or destruction.

## **V. Employee training**

- A. Retail employees assigned to process foods in reduced or modified oxygen packages must be familiar with these rules and the potential hazards associated with reduced or modified oxygen packaged foods. A description of the training and course content provided to the retail employees must be available for review by the Food Protection Division.
  1. Each person who processes and packages food under reduced or modified oxygen conditions must receive training before beginning operations.
  2. Training may be made available through the equipment manufacturer or distributor or private consultants.
  3. Training must include full understanding and familiarity with the HACCP program approved by the regulatory authority for that facility. Recommended subject areas for this training include:
    - i. Prevention of cross-contamination
    - ii. Health and personal hygiene of food handlers
    - iii. Time-temperature control of foods
    - iv. Pathogens of interest
    - v. An individual HACCP program for that facility

4. Include a list of trained employees and the content of the training in an approved HACCP program.
5. Designate a "Responsible Person" who will determine the action to be taken if there is a deviation from the process that has been approved by the Food and Dairy Protection Division.

#### **VI. Refrigeration requirements**

- A. All retail processed foods (packaged and yet-to-be packaged in reduced oxygen packages must be refrigerated at 38 degrees Fahrenheit or below or kept frozen at 0 degrees Fahrenheit or below.
- B. Verify and record holding temperatures of the refrigeration units daily.

#### **VII. Refrigeration statements**

- A. All retail packaged foods in a reduced oxygen atmosphere shall bear a statement **"IMPORTANT - MUST BE KEPT REFRIGERATED"** or **"IMPORTANT - MUST BE KEPT FROZEN"** in addition to other required information. This statement must appear on the principal display panel in bold type on a contrasting background using this format.

<p><b>"IMPORTANT"</b>  <b>Must be Kept</b>  <b>Refrigerated</b>  <b>at</b>  <b>38°F or below</b></p>	<p><b>"IMPORTANT"</b>  <b>Must by Kept</b>  <b>FROZEN</b></p>
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These refrigeration statements were developed and recommended for refrigerated and frozen foods by the National Food Processors Association (NFPA).

- B. There are different storage temperature requirements for retorted pouches and reduced or modified oxygen package for refrigerated foods. Retorted pouches have a heat and pressure treatment (under low acid canned food Good Manufacturing Practices) which makes the product commercially sterile and allows non-refrigerated temperature storage. Foods in reduced or modified oxygen packaging which do not receive a heat and pressure treatment allow survival of certain microorganisms, and must be controlled by refrigeration and a secondary barrier. The refrigeration statement will help to remind employees of this refrigeration requirement since both pouches look similar.
- C. Each refrigeration statement must be clear and easy to read and must be on the main label of the package (principal display panel) if more than one label is used.
- D. In addition to the refrigeration statement, each package must bear the following minimum labeling information in English:
  1. The common and/or usual name of the product.
  2. The name, address and zip code of the retail store or food service establishment packaging under reduced or modified oxygen conditions.
  3. The net contents of the package.
  4. A list of ingredients in descending order by weight.
  5. Any artificial color, artificial flavor or preservative that is present.

#### **VIII. Labeling - "Use By" Dates**

- A. Each package of refrigerated retail processed food in a reduced oxygen atmosphere shall bear a

- B. **"Use by" date.** This date cannot exceed **14 days from retail processing.**
- C. The date assigned by the retailer shall not go beyond the manufacturer's recommended "Pull Date" for the food.
- D. The "Use By" date must be listed on the principal display panel in bold type on a contrasting background.
- E. Each "Use By" date must be clear and easy to read on the principal display panel of the package.
- F. The **"Use By" date** cannot **exceed 14 days** from the retail reduced or modified oxygen packaging date even if the original "Use By" date of the processing plant was a long time period.
- G. In addition to the refrigeration statement, each package must bear the following minimum labeling information in English:
  - 1. The common and/or usual name of the product.
  - 2. The name, address and zip code of the retail store or food service establishment packaging under reduced or modified oxygen conditions.
  - 3. The net contents of the package.
  - 4. A list of ingredients in descending order by weight.
  - 5. Any artificial color, artificial flavor or preservative that is present.

## **IX. Safety barriers**

### **A. Primary Barrier**

Refrigeration at 38° F is required as the primary safety barrier.

### **B. Secondary Barriers**

Only refrigerated foods that possess one or more of the following secondary safety barriers can be packaged in a reduced or modified oxygen atmosphere at retail:

- 1. Foods with a water activity ( $a_w$ ) below 0.93.
- 2. Foods with an acidity (pH) of less than 4.6.
- 3. Foods with high levels of non-pathogenic competing organisms that prohibit the growth of pathogenic bacteria.
- 4. Meat or poultry products processed under U.S.D.A. or Illinois Department of Agriculture supervision with a nitrite level of at least 120 PPM and a minimum brine concentration of 3.5%.
- 5. Frozen foods provided the product is maintained in a frozen state before, during and after packaging.

The concept of incorporating multiple barriers (refrigeration plus a secondary safety barrier) acts as a deterrent to the growth of infectious or toxigenic microorganisms or the slow growth of *Clostridium botulinum* during extended shelf life or during potential product abuse between processing and consumption. These safety barrier requirements must be verified in writing for all foods packaged in a reduced oxygen atmosphere in a retail food establishment. A written letter of guarantee with certification of the safety barriers may be provided by the product manufacturer if their plant is inspected under Illinois or U.S. Department of Agriculture inspection. Alternately, the safety barrier may be guaranteed by an independent laboratory using official methods of analysis.

Water Activity ( $a_w$ ), or the measure of the available moisture content in a food is an important factor in the growth of microorganisms. It can be written as a number less than 1.00 as an index of the

available moisture in that food. Free water is available for microbial growth and spoilage, the action of enzymes and non-enzymatic browning. Water in the bound state, not used to calculate water activity, is not available to participate in these reactions because it is tied up by water soluble compounds such as sugar, salt, gums, etc. (osmotic binding). Each organism, has a minimum  $a_w$  value which it will not multiply. In the case of toxigenic organisms, there is a minimum  $a_w$  below which the organism will not produce toxin.

Hydrogen ion concentration (pH) is a measure of the acidity or alkalinity of a food. (The pH value represents the reciprocal of the negative logarithm of the hydrogen ion concentration.) The pH scale ranges from 0-14 with a pH value of 7 being neutral. Acid foods have pH values below 7 and basic (alkaline) foods have pH values above 7.

Low pH can serve to safely extend shelf life of food in two ways: by directly inhibiting microbial growth and by reducing microbial resistance in foods that will subsequently be heat processed. A pH of 4.6 is the deciding factor in providing a safety barrier because this pH completely inhibits the growth of *Clostridium botulinum*.

Non-pathogenic competing organisms, particularly when present in high numbers, tend to over-grow pathogenic organisms and often lower the pH of the food as well. Fermented foods such as certain cheeses, raw sausages and pickled foods either depend on the use of "starter cultures" or natural flora that are present in the food. In foods such as active culture cheeses (see Acceptable products list), these microorganisms are still viable and will continue to grow under anaerobic conditions. It is the natural competition of these organisms along with the continued lowering of pH that inhibits the growth and toxin production of pathogens such as *Clostridium botulinum*.

Curing food has different connotations in different foods. In cured meat and poultry, salt and nitrate or nitrite are always added to the product. In cured fish, salt is always added but nitrite rarely. In cheese, which always contains salt but infrequently contains nitrate, the term curing is applied to the production of desirable proteolytic and lipolytic changes. Curing salts (sodium chloride - table salt and sodium and potassium nitrate or nitrite) alter the basic color, flavor, texture and susceptibility to microbial growth in foods. Microbial growth, depending on the product, may be desirable, cause spoilage, or cause food poisoning.

At levels and under conditions commonly used to cure meat and poultry products, curing agents do not cause destruction of microorganisms. Instead, they retard or prevent growth of undesirable organisms and prevent the germination and outgrowth of spores that survive the cooking process given to some cured products.

Cured meat and poultry products (see Approved Products List) which have been processed under USDA or Illinois Department of Agriculture supervision, contain a nitrite level of at least 120 PPM and a minimum brine (salt) concentration of 3.5%.

Freezing foods inactivates and prevents the growth of all microorganisms but rarely does it destroy them. Most bacterial spores and some vegetative cells survive freezing virtually unchanged although it may result in some deaths or nonlethal injury. Injured bacteria which may be difficult to detect in a frozen product can later, after thawing, recover the ability to grow or to produce toxin at a normal rate.

Time-Temperature Integrators/Indicators (TTIs) are devices that show an irreversible chemical reaction that correlates with time and temperature. TTIs chosen for a particular temperature range can be useful to determine whether a product has thawed or reached a temperature above a certain predetermined maximum.

#### **X. Fish and fishery products**

- A. Raw or processed fish and fishery products may not be processed at retail in a reduced or modified oxygen atmosphere unless held frozen before, during and after packaging.
- B. Any fish, fishery product or seafood must be kept frozen at all times if it is packaged under reduced or modified oxygen conditions in a retail food establishment. There must be an attached label which reads: **“IMPORTANT MUST BE KEPT FROZEN”**.

#### **XI. Safety barrier verification**

- A. The safety barrier requirement must be verified in writing for all foods processed in a reduced oxygen atmosphere at retail. This can be accomplished via written certification from the product manufacturer or through independent laboratory analysis of the incoming product using the official method of analysis.
- B. Any changes in product formulation or processing procedures that impacts on the safety barriers required recertification of the product.
- C. All barrier certifications must be updated every twelve months or immediately in the event of a change in product ingredients, process or barriers.
- D. A record of all safety barrier verifications must be maintained and available at the processing site for regulatory review to determine compliance with the criteria specified.
- E. Special packaging materials are required when any product is vacuum packaged. The oxygen transmission rate (OTR) of various plastic films is dependent on the type of plastic temperature and humidity. Plastic overwrap typically used in a retail food store to wrap fresh meat, has an OTR of about 1600 cc/m<sup>2</sup> while MAP/CAP pouches have an OTR of 10-20 cc/M<sup>2</sup> at room temperature. Multi-layered plastics are designed for the specific properties desired in the pouch or film (oxygen barrier, moisture barrier, sealability, toughness, rigidity, etc. In some cases, "smart" films are used which can be made selectively permeable to certain gases. Abused packaging under reduced oxygen conditions may result in increased O<sub>2</sub> concentration and then spoilage. In the case of cook-chill, a "leaker" would permit cooling water to enter the package and thus potentially contaminate the product. All basic packaging components such as polyolefins, polycarbonates, polyvinyl chloride, and nylons are considered indirect food additives under the federal Food, Drug and Cosmetic Act.
- F. Evaluation of the package and seal should be conducted on a routine basis. The following criteria may be used to help in the evaluation:  
Each individual package or a certain percentage from each lot should be examined for integrity of package and seal.  
Make a note if any indicators of a faulty seal such as wrinkles, and incomplete seal or "puffy" packages. If these indicators are found very frequently, retaining or maintenance or repair may be necessary.  
The HACCP program should indicate when the integrity of the package (holes, rips, tears) or the contents of the package (slime, mold discoloration, bloating) will require repackaging or destruction of the product.
- G. A lot identification system is necessary to enable an investigator to back-track to discover

information about the "batch" of product that was processed and packaged at the same time. The "USE BY" date may be used as a lot identification system. This lot information can best be maintained by using a log sheet. Recommended information on a log sheet includes the following:

1. Lot identification number.
2. Product
3. Processing applied to product
4. Amount of product packaged
5. Date of processing and packaging
6. Product temperature when packaged.
7. Manufacturer's estimated shelf life (if applicable).
8. Repackaged shelf life ("use by" date).
9. Name of processor/packager

## **XII. Hazard Analysis Critical Control Point (HACCP) Program**

**A.** All retail food establishments processing food in a reduced or modified oxygen atmosphere must develop a HACCP Program and maintain a copy of this program at the processing site for review by the Chicago Department of Public Health, Food Protection Division. The HACCP program will include:

1. A complete description of the processing, packaging and storage procedures. The program must also identify the critical control points in the procedure with a description of how these will be monitored and controlled, and provide barrier certification for all foods.
2. A list of all equipment and food-contact packaging supplies.
3. A description of the lot identification system.
4. A description of the employee training program.
5. If gases are used, they must be identified as being of food grade quality and must be listed by proportion of gas(es) used in the packaging.
6. A description of the procedure along with the frequency for cleaning and sanitizing the involved food-contact surfaces in the processing area.
7. A description of action to be taken if there is a deviation from the process approved by the Food and Dairy Protection Division.

### **B. Monitoring the HAACP Program.**

HACCP is not an auditing program that replaces inspections with record checking. It is a highly specialized system for controlling food safety. HACCP provides a specific approach to the control of microbiological, chemical, and physical hazards in foods. The intent of this HAACP Program is to eliminate or control the contamination, survival or multiplication of pathogenic microorganisms in foods packed in a reduced or modified oxygen atmosphere. To do this: (i) Diagram the complete storage, processing and handling of each food product which will be packaged under a reduced or modified oxygen atmosphere. Similar types of foods such as luncheon meats or cheeses may be lumped together. (ii) Determine the methods to be used which will control or eliminate the risk associated with each critical control point identified in the process flow (Examples of process flow diagrams are provided in the appendix). (iii) Using a flowchart to follow potentially hazardous foods through your reduced oxygen process and indicate how and when you will monitor or compare your operation's performance against the standards that been set.

### **C. Records**

Certain types of records must be retained by the retail food establishment (food store or food dispenser).

1. Application to the regulatory authority with their written approval.
2. Letter of guarantee from product manufacturer certifying safety barriers.
3. Independent laboratory test results certifying safety barriers.
4. Approved products list (specifically approved by the Food Protection Division).
5. Copy of the complete HACCP program.
6. Lot code logs.
7. Label or label facsimile for each approved product.
8. Responsible Person Identification.
9. List of employees trained and knowledgeable about reduced or modified oxygen packaging.

### **D. Equipment and packaging supplies**

Equipment and packaging supplies should be listed as part of the HACCP program and should be used according to the manufacturer's directions.

1. List all equipment (i.e., snorkel or chamber vacuum machine, slicers, etc.) and packaging supplies.
2. Keep a copy of the operations manual for each piece of equipment in the work area. Follow the maintenance and parts replacement schedules recommended by the manufacturer in the manual.
3. Include a layout in the application (drawn to scale) of the areas included in the reduced oxygen packaging process. Include product storage area, preparation area, sealing and processing area, finished product storage area and handwashing sink.
4. Provide specification for packaging materials (pouches, etc.) and supplier.

### **E. Gases**

If any gases are used in the reduced oxygen packaging of product:

1. Note the type and proportion of gases.
2. Provide the source of gases.
3. Use only food grade or hospital (medical) grade gases.
4. Use only stainless steel regulator valves on gas cylinders.
5. Secure any gas cylinders to prevent accidents.

## **XIII. Cleaning and sanitizing**

Cleaning and sanitizing is an important step for all food contact surfaces. Use of approved cleaners and sanitizer will reduce levels of pathogenic organisms to prevent cross-contamination of the product. Detergent cleaners suspend and help remove various food soils.

- A.** List the type of cleaner/detergent and method of sanitization used (including concentration if chemical sanitizer are used) in the HACCP Program.
- B.** Describing the cleaning frequency.

## **XIV. Precautions against contamination**

- A.** Only unopened packages of commercially manufactured food products can be used in the process of reduced or modified oxygen atmosphere packaging.

- B. If it is necessary to stop processing for a period in the excess of one-half hour, the remainder of the product must be diverted for another use in the retail operation.

**XV. Assured removal and destruction of expired product**

- A. Retail processed reduced oxygen foods that exceed the "Use by" date or the manufacturer's "pull date" cannot be sold in any form and must be destroyed in a manner approved by the Food Protection Division.
- B. Once the product is outdated, it may not be repackaged under aerobic conditions or frozen.

**XVI. Dedicated area/Restricted access**

All aspects of reduced or modified oxygen packaging shall be conducted in an area specifically designated for this purpose.

- A. There shall be an effective separation to prevent cross-contamination between raw and cooked products.
- B. Access to the processing area shall be restricted to responsible trained personnel who are familiar with the potential hazards of this operation.

**XVII. Pathogens of interest**

- A. The microbiology of Reduced Oxygen Packaging.

Microbial populations differ when foods are packaged under aerobic conditions as opposed to reduced oxygen conditions. The growth and activities of microorganisms within a food package, particularly anaerobes, are affected by the food being packaged, the temperature, the water activity ( $a_w$ ) and pH, the nature of the entrapped gases and competition among microorganisms. The nature of the food being packaged can vary in many ways. The growth of anaerobes, microorganisms which can survive and multiply under conditions with less oxygen than normally found in air (about 21%), is rarely a problem in fresh meat and poultry. The accumulation of lactic acid in the meat after slaughter or the reduction of  $O_2$  and increase of  $CO_2$  from tissue respiration is inhibitory to most microorganisms including anaerobes. The natural development of lactic acid bacteria plays a part by dropping the pH in the meat. The chemical environment of the food itself can also be made inhibitory by the addition of nitrite, salt or other preservatives in the curing process. Cooked foods after vegetative bacteria have been destroyed are particularly susceptible to cross-contamination, outgrowth of spores, and toxin production under temperature abuse conditions.

Temperature is the most important and the easiest factor affecting microbial growth to control. Most human pathogens have an optimal growth temperature range of 70-90°F and are incapable of growth at refrigeration temperatures below 45°F. Psychrotrophic bacteria have an optimum growth range of 50-70°F but are capable of growth at refrigeration temperatures below 50°F. Several psychrotrophic bacteria are able to grow well below 41°F. While growth of psychrotrophic bacteria is considerable slowed at refrigeration temperatures, the extended shelf life of foods packaged under reduced oxygen allows time for these bacterial populations to reach high numbers. An added factor to consider is the inability of many retail store and home refrigerators to maintain product temperature at 45°F., let alone below 38°F.

Water activity ( $a_w$ ) and pH of food also determine the potential for microbial growth. Water activity is a measure of the available water that can be used for metabolic processes in a cell. Two determining points of  $a_w$  are 0.86 below which *Staphylococcus aureus* will not form toxin and 0.93 below which *Clostridium botulinum* will not form toxin. Many foods with low  $a_w$ , such as bakery goods, have little likelihood of supporting growth of pathogenic microorganisms but are subject to spoilage from molds.

The pH of a food, or its measure of acidity or alkalinity, also has an effect on the growth of microorganisms. Low pH or acidic conditions are generally inhibitory to most pathogens. The low pH may be a result of natural respiration of the product, high populations of lactic acid bacteria or the addition of chemicals to lower the pH of the food.

The mix or proportion of various gases in the atmospheric environment surrounding the food has a tremendous impact on the resulting bacterial populations. The normal composition of air, approximately 21% oxygen stimulates the growth of aerobic bacteria and inhibits the growth of anaerobic bacteria. Oxygen keeps the myoglobin in fresh meat in the oxygenated form (myoglobin) so it has a bright red color and looks "fresh". Concentrations of carbon dioxide (CO<sub>2</sub>) above approximately 5% inhibit, to some degree the growth of a broad spectrum of food bacteria, yeasts and molds which make the gas an effective food preservative. Carbon dioxide has a bacteriostatic effect by extending the lag phase and decreasing the growth rate of bacteria. Nitrogen (N<sub>2</sub>) is an inert, tasteless gas with no anti-microbial activity. Its advantages are that it has low solubility in water so it can be back-flushed into a package after a vacuum is drawn to prevent products from being crushed. It acts as a replacement gas when CO<sub>2</sub> is dissolved. N<sub>2</sub> also delays oxidative rancidity and inhibits growth of aerobes by replacing some of the O<sub>2</sub>.

Competition among organisms is another important factor that affects microbial growth. Most pathogens are poor competitors. While the following list of pathogens are able to grow under anaerobic conditions at refrigeration temperatures, they do not do well in competitions with other organisms. These competitors may be naturally occurring flora such as those found on fresh meat and poultry or it may be a cultured product such as a fermented sausage or live-culture hard cheese.

#### **B. Anaerobic Pathogens**

*Clostridium botulinum* is an anaerobic, spore-forming bacterium that is found in soil, sediment and water. There are 7 types of *Clostridium botulinum*, designated A-G, with A, B and E being the most common. Neurotoxin production can occur at temperatures as low as 38°F. Type A and B spores are more heat resistant requiring 250°F. and 15 minutes for destruction and salt resistant requiring in excess of 10% salt to prevent growth than Type E spores. They are also more pH tolerant needing a pH below 4.6 to prevent growth and are not able to grow below 50°F. Type E spores are less resistant to heat, with 180°F. for 30 minutes resulting in destruction and they are less resistant to salt not being able to grow above 5% salt concentration. They are less pH tolerant but are able to grow and produce toxin at 38°F. Type A (proteolytic) foodborne outbreaks are mainly associated with home-canned vegetables. Type B (non-proteolytic) foodborne outbreaks are mainly associated with home-cured meats. Type E (non-proteolytic) outbreaks are often associated with seafood products. *Listeria monocytogenes* is a psychrotrophic pathogen which can grow at refrigerator temperatures as low as 34°F, grow in the presence of nitrites and salt up to 10% and at O<sub>2</sub> concentrations of 5% which are inhibitory to normal aerobic spoilage organisms. *Listeria* has been associated with produce (not fruit), meat, poultry and seafood. *Listeria* is a hardy organism widely distributed in the environment. It even appears to recover better/faster from injury due to heat treatment under anaerobic conditions. *Listeria* is readily destroyed through required cook treatments but frequently recontaminates products through cross-contamination, from aerosols generated by steam or water hose clean up, from condensation and from biofilms that adhere to improperly cleaned and sanitized food contact surfaces.

*Yersinia enterocolitica* is a psychrotrophic, facultative anaerobe which grows at temperatures as low as 34°F. In fact, cold temperatures favor this microorganism. Swine appear to be the major reservoir of this organism but outbreaks have been associated with chocolate milk, pasteurized milk and tofu packed in

spring water. Cooking readily destroys the organism and a large population of competitive background flora inhibits the growth of *Yersinia*. *Yersiniosis* often mimics appendicitis in children and has caused many unnecessary appendectomies. A concentration of 10% CO<sub>2</sub> is stimulatory to the growth of *Yersinia*, 40% CO<sub>2</sub> increases the lag phase and 100% CO<sub>2</sub> increases the lag phase and decreases the growth rate during the log phase.

*Campylobacter jejuni* is a microaerophilic pathogen with optimal growth in an atmosphere containing 5% O<sub>2</sub> at 110°F. It is a relatively fragile organism and poor competitor but survives better at refrigerator temperatures than at room temperature. It may also be able to survive better in modified atmosphere compared to an air atmosphere.

Salmonellae with over 1600 known serotypes, are facultative aerobes. Their primary source is diseased humans and other warm-blooded animals. Salmonellae will not grow at temperatures below 42°F but will persist in either frozen or refrigerated foods almost indefinitely. There is minimal growth in a modified atmosphere at 50°F. They are heat sensitive non-spore-formers which are destroyed in about 30 minutes by heat above 140°F.

*Clostridium perfringens* is an anaerobic, spore-forming pathogen with a minimum growth temperature of 59°F. Growth is not noticeably affected by CO<sub>2</sub>. CO<sub>2</sub> stimulates the germination of spores at atmospheric pressure but low temperature and high CO<sub>2</sub> concentration appear to prevent outgrowth of *Clostridium perfringens* spores. Spores are very heat resistant, requiring 212°F for 100 minutes for destruction. Spores are widely distributed in soils but outgrowth is relatively easy to control by proper refrigeration.

*Staphylococcus aureus* is a facultative aerobe not able to multiply at temperatures much below 44°F. It is inhibited by high concentrations of CO<sub>2</sub> and the effect is enhanced by lower temperature. The major source of the organism is human skin and mucous membranes, usually the food handler. *Staphylococcus* is very salt tolerant, being able to withstand salt concentrations of 10 to 17%. It is also tolerant of high sugar concentrations, nitrite and relatively acid conditions of pH 4.5.

*E. coli* O157:H7 a facultative anaerobe, has been identified as the causative agent of hemorrhagic colitis in humans with the most serious complications being hemolytic uremic syndrome (HUS). The lower temperature range for growth is 50°F. This organism is able to synthesize a new set of proteins in response to stress to become better able to withstand exposure to heat treatments normally lethal to the cell. These stress proteins are produced in response to a mild heat shock or to anaerobic conditions thus making the organism more resistant to subsequent heat treatment.

*Aeromonas hydrophilla* is a psychrotrophic aerobe which appears to be inhibited by CO<sub>2</sub> at low temperatures (42°F) but not at slightly higher temperatures (50°F). The organism is widespread in the environment, particularly in fresh and brackish water so it is often a part of the normal intestinal flora of healthy fish

## **XVIII. APPENDIX**

### **A. MAP/CAP Production and Record Log**

### **B. Sample Application for Approval - Retail Reduced Oxygen Packaging**

**C. Hazard Analysis for Reduced Oxygen Packaging**

**D. HAACP Flow Process Diagram**

**(A) MAP/CAP PRODUCTION AND RECORD LOG**

**STORE**

**ADDRESS**

Trained Operator	Date	Equipment clean and sanitized YES/NO	Product Name	Manufacturer	Date received at store	Sell by Use by date on product	Storage temperature (product)	Unopened weight to be sliced	Time process started	Time process ended	Display case temperature	Last date of sale	Other comments

\_\_\_\_\_  
**Signature** **Title** **Date**

**(B) APPLICATION FOR APPROVAL  
RETAIL REDUCED OXYGEN PACKAGING**

Retail Food Establishment \_\_\_\_\_ Permit / I.D. No. \_\_\_\_\_

Name \_\_\_\_\_

Operator \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

Business Telephone \_\_\_\_\_

Home / Emergency  
Telephone \_\_\_\_\_

Individual (s) Trained in Reduced Oxygen Packaging		
Individual who has the responsibility to halt Production or sale of product (s) or complete a recall of the reduced oxygen packaged product in case there is serious deviation from the process approved by the regulatory agency.	NAME _____	Title _____
	NAME _____	Title _____

Attachment A - A list of EACH food product for which you are asking approval for retail reduced oxygen packing. For each product, provide specific information about.

1. Safety barrier used (aw.) Ph, non-pathogenic competing organisms, cured meat or poultry processed under USDA or IDA inspection, freezing, non-potentially hazardous food besides refrigeration
2. Letter of guarantee from the manufacturer or from an approved independent laboratory verifying the Safety barrier.

Attachment B - A HACCP Program which gives details of the entire reduced oxygen packaging process including

1. Flow diagram or description of the entire process.
2. Time and temperature requirements for all stages of handling.
3. Identification of each Critical Control Point ( Source, Temperature, Time, Cross-Contamination, Extended Shelf Life, etc.)
4. Plan to monitor and control these Critical Control Points.
5. Layout of reduced oxygen packaging area(include storage, preparation, processing and display area, hand washing sink, three compartment sink, etc.)
6. Designation of dedicated work area and personnel.
7. Lot identification code system (include explanation of code and record keeping system)
8. Employee Training (include summary outline or course content, trainer and Designated Responsible person).
9. Gases, if used (include types. Proportions, source).
10. Cleaning and Sanitizing Procedure (include frequency, chemicals used, procedures).
11. Action of Responsible Person when there is a deviation from the approved HACCP plan.

Attachment C - Labels (a printed or facsimile label) for each reduced oxygen packaged product. The following information is required:

1. Name of Product
2. Retail Establishment Name and Address
3. Ingredient Statement in descending order of predominance
4. Net weight
5. "Important-Must Be Kept Refrigerated" or "Important-Must Be Kept Frozen" label statement
6. "Use By" date
7. Lot Identification Code

Any person engaged in reduced oxygen packaging shall be trained in the safe application of the attached HACCP program. I do hereby agree to make all data and records pertaining to the reduced oxygen packaging operation available to the Department of Public Health upon request.

\_\_\_\_\_  
Signature and title

\_\_\_\_\_  
Date

**FOR DEPARTMENT USE ONLY**

## Hazard Analysis for Reduced Oxygen Packaging

The hazard analysis is a series of questions appropriate to each step in the HACCP program. The hazard analysis should question the effect of a variety of factors upon the safety of the food.

### A. Ingredients

1. Does the food contain potentially hazardous food by definition?
2. Is potable water used in the processing or equipment sanitation?
3. Which secondary barriers (in addition to refrigeration) are present in the food or will be added to the food to inhibit or minimize growth of micro organisms?
4. Are letters of guarantee available from manufacturers who process cured meat or poultry under inspection by the U.S. Department of Agriculture or a state regulatory agency (health or agriculture) attesting to the levels of nitrite/nitrate and salt?
5. Are independent laboratory results available in other cases?
6. If applicable, is other laboratory evidence available to support the claim for the secondary barrier.

### B. Processing procedures

1. Are only unopened packages of commercially manufactured food products used?
2. Is the product subject to recontamination before packaging?
3. Is processing time at room temperature (slicing, packaging, labeling) limited?

### C. Work area and equipment

1. Is a "dedicated" work area available which is used only for processing and reduced oxygen packaging?
2. Is the access to this work area restricted to responsible, trained personnel and not part of another traffic flow pattern?
3. Is there adequate refrigeration capacity to store bulk product and sliced MAP/CAP product at recommended refrigeration temperatures (less than 38°F)?
4. Is the equipment (slicer, scales, vacuum packaging machine) designed so that it can be easily cleaned and sanitized?
5. Does the facility and equipment meet all other requirements for retail food service or retail food store establishments?
6. Are hand washing facilities convenient and accessible to the work area?

### D. Packaging

1. Are only products approved by the appropriate regulatory authority packaged under reduced oxygen conditions?
2. Are approved, food grade materials (pouches) used for packaging?
3. Are gases which are used for backflushing food of hospital grade?
4. Is each package labeled with the "Important-Must Be Kept Refrigerated" or "Important-Must Be Kept Frozen" statement.
5. Is an identifiable and legible lot code present on each package and recorded on the log sheet?
  6. Is each package carefully examined to determine that a good seal is present?

### E. Employee health, hygiene and education

1. Has every employee who works in this area received training in the specific operations and control of critical control points of reduced oxygen packaging?
2. Are employees familiar with the logging and records requirement?

3. Is a "Responsible Person" (store manager, deli manager, etc.) always available to review and approve daily log sheets and determine the action to be taken if there is a deviation from the process approved by the regulatory authority?
4. Is good personal hygiene (e.g., thorough hand washing, minimal or no hand contact with product, plastic gloves, etc.) practiced by all employees in the work and preparation area?



**Chicago Board of Health Rules and Regulations  
Pertaining To Bulk Foods**

**I. Definititons**

“**Bulk foods**” means processed or unprocessed food in aggregate containers from which specific quantities desired by the consumer are withdrawn. For the purpose of this interpretation, bulk food does not include fresh whole fruits or fresh whole vegetables.

“**Display area**” means a location or locations, including physical facilities and equipment, where bulk food is offered for customer self-service.

“**Product module**” means a food contact container or insert for a display unit designed for display of food in bulk for customer self-service by either direct or indirect means.

“**Servicing area**” means a location or locations designed and equipped for cleaning, sanitizing, drying or refilling product modules or for preparing bulk foods.

**11. Requirements**

**A. Food supplies**

Bulk Food product modules shall be labeled with:

1. Unit price, price per pound. and, if on sale, the expiration date.
2. A counter card, sign, or other appropriate device bearing prominently and conspicuously at the product module,  
the common name of the product, a list of ingredients in proper order of predominance, and other information required under Section 403(1) (2) of the Food Drug and Cosmetic Act.

**B. Food Protection**

Bulk foods and product modules shall be kept free from contamination during display, customer self-service, refilling, and storage. Product modules of non-human foods and non-food items shall be kept adequately separated from product modules containing human food items. Bulk food returned to the store by the customer shall be discarded.

**C. Food storage**

Labels or package markers shall be available to the customer to identify take-home containers with the common name of the product unless the product is readily identifiable on sight.

**D. Food display**

Bulk foods shall be dispensed only from product modules which are protected by close fitting, individual covers. If opened by the customer, the covers shall be self-closing and shall remain closed when not in use. Product modules for display of salad ingredients only:

1. May be protected by an overhead canopy and food shield (sneeze guard) in lieu of a cover or lid; and
2. Should be arranged to permit customer access without the necessity for reaching over uncovered food.

Customer access to food contained in product modules shall be at a height of 30 inches or more above the floor. Product modules with customer access from the top shall have a depth no greater than twelve inches. Customers are informed not to smoke in the bulk food display area. Customers are informed of their responsibilities for protecting display food from contamination.

**E. Dispensing Methods and Utensils**

Dispensing methods and utensils suitable for removal of bulk foods from product modules are listed below. Examples of foods which can be dispensed by each method are listed, but are not limited to:

**1. Gravity (no utensils) or dispensed by food service personnel.**

**Candies (unwrapped)**

Gummy Bears	Jordan Almonds
Jelly Beans	JuJu Jels
Jelly Beans-Watermelon	Orange Slices
Jelly Beans-Ass't. Grmt.	Pokeys
Jelly Beans-Cherry	Smarties
Jelly Beans-Banana Split	Spearmint Leaves
Jelly Beans-Raspberry	Spice Drops Jolly
Rancher Ass't.	Tootsie Roll Midgees

**Drink Mixes**

Chocolate Instant Drink Mix	Fruit Punch Drink Mix
Grape Drink Mix	Lemonade Drink Mix
Orange Breakfast Mix	Orange Drink Mix

**Frostings/Puddings**

Frosting Mix-Chocolate	Frosting Mix-Vanilla
Instant Pudding-Butterscotch	Instant Pudding-Chocolate
Instant Pudding-Vanilla	Shredded Coconut
Whipped topping	

**Nuts**

Mixed Nuts w/Peanuts	Peanuts-Jumbo Blanched
Peanuts-Spanish	Pecan Pieces
Pecan Halves	Walnut Halves and Pieces
Walnut Pieces	Almonds-Salted Roasted
Cashew Pieces	Cashews-Whole Cashews-
Unsalted Roasted	Dry Roasted Nuts-Salted
Dry Roasted Nuts-Unsalted	Imperial Nut Mix
Imperial Nut Mix-Raw	

**Peanut Butter/Jellies**

Grape Jelly	Peanut Butter- Crunchy
Orange Marmalade	Peanut Butter-Creamy

**Strawberry Preserves**

**Snack (Ready-to-eat)**

Sweet and Salty	Taco Flavor Tortilla Chips
Tostada Chips	Trail Mix
Tropical Mix	Whole Soy-Unsalted
Yogurt Peanuts	Yogurt Raisins

**Seasonings**

Parsley Flakes	Seasoned Salt
Spaghetti Sauce Mix	Taco Seasoning Mix

**Sugars**

Confectioners Sugar	Dark Brown Sugar
Granulated Sugar	Light Brown Sugar

**Granola Snacks**

Apricots	Banana Chips
California Mix	Calmyrna Figs
Carob Malted Milk Balls	Carobs Peanuts
Carobs Raisins	Cheese Curls Corn
Chips	Corn Nuts
Dried Mixed Fruit	Dried Peaches
Dried Pears	Fruit Medley

**Cereal**

Corn Flakes	Granola Cereal
Quick Oats	Sugar Frosted Flakes

**Snacks**

Nacho Tortilla Chips	Raisins
Party Mix	Sesame Honey Treats
Peanuts and Raisins	Sesame Nut Mix
Pineapple Tidbits	Squash Seeds
Pitted Dates	Student Nut Mix
Pitted Prunes	Sunflower Meats
Pretzel Gems	Sunflower Meats/Pretzel Sticks
Unsalted	Sunflower Seeds Pretzel Twists
Pretzels-Dutch	Pretzels-Party Mix
Croutons-Italian	Croutons-Plain

**Spices/Seasonings**

Brown Gravy Mix	Ground Black Pepper
Chili Powder	Ground Cinnamon
Chili Seasoning Mix	Onion Flakes
Garlic Salt	Oregano

**2. Pumps (no utensils only)**

Liquids - oil, vinegar  
Viscous foods - dressings, honey, catsup

**Syrup**

Chocolate Syrup  
Pancake Syrup

**Honey**

White Honey

**3. Tongs or Scoops**

Instant Potatoes	Brown Rice
Long Grain Rice	

**Pasta**

Shells-Small	Noodles-Fine
Spaghetti-Regular	Noodles-Wide
Spaghetti-Thin	Noodles-Medium
Spinach Egg Noodles	Shells-Medium
Chow Mein Noodles	Elbow Macaroni
Lasagna	Mostaccioli Lisci

Rigatoni	Rotini
<b>Gelatins</b>	
Gelatin-Cherry	Gelatin-Lime
Gelatin-Orange	Gelatin-Strawberry

**Dispensing Methods and Utensils (continued)**

**Dried Beans and Peas**

Black-Eye Peas	Lentil Beans
Pinto	Beans
Great Northern Beans	Large Lima Beans
Kidney Beans	Split Peas/Navy Beans

**Unshelled Nuts**

Pistachios-Natural	Pistachios-Red
Gourmet Popcorn	

**Wrapped Snacks**

Granola Bars-Chocolate Chip	Granola Bars-Peanut Butter
Granola Bars-Raisin Nut	Granola Bars-Apple Cinnamon

**Baking Miscellaneous**

Baking Soda	Blueberry muffin Mix
Bread Mix w/Yeast	Brownie Mix
Butterscotch Morsels	Pie Crust Mix
Buttermilk Biscuit Mix	Corn Muffin Mix
Hot Roll Mix	Pancake and Waffle Mix
Peanut Butter Morsels	Pizza Crust Mix
Semi-Sweet Chocolate Morsels	
All Purpose flour	

Loaves of bread must be prepackaged or wrapped to minimize handling.

**Breadings and Coatings**

All purpose Batter Mix	Bread Crumbs-Plain
Bread Crumbs-Seasoned	Breading Mix
Chicken Coating Mix	Coat and Bake Mix

**Cake and Frosting Mix**

Cake Mix-Angel Food	Cake Mix-Devils Food
Cake Mix-White	Cake Mix-Yellow
Cookie Mix-Chocolate Chip	Cookie Mix-Oatmeal

**Miscellaneous**

Coffee Creamer	Instant Hot Cocoa
Tea Bags	

**4. Ladles (Longhanded)**

**Pie Fillings Apple**

Pie Filler blueberry	Cherry Pie Filler
Pie Filler	

**5. Tongs with food placed above the reach of children.**

**Cookies**

Peanut Butter Cookies	Chocolate Chip Cookies
Pecan Cookies	Coconut Cookies
Oatmeal Cookies	

**6. Not for Human Consumption (Pet Foods)**

Separate area of Bulk Dispensing Location.

**Pet Foods**

Cat Food - Dry

Cat Food - Semi Moist

Dog Food - Chunk Dry

Dog Food - Premium Dry

Dog Food - Semi Moist

Dog Biscuits - Large

Dog Biscuits - Medium

Lolli Dog Treats

Dispensing utensils shall be stored clean and dry, attached to the display unit by a length\* of easily cleanable material and stored in a sleeve or housing attached or adjacent to the display unit. (Exempted from this requirement are tongs for salad bar use, and ladles used with semi-solid foods). Customers are provided instruction on the correct use of dispensing utensils. Take-home containers (bags, cups, lids, etc.) for customer use are provided in a sanitary manner. No "personal" containers are filled with bulk foods.

\*Length shall be such that utensil cannot contact floor.

**F. Equipment and utensils, materials (4-101, 4-103)**

Cloth, burlap or paper bagging shall not be used as product modules in the display area. Single service plastic bags or disposable lines used as product modules shall be of sufficient weight and thickness to resist tears and cuts.

**G. Design and fabrication (4-201)**

Product modules, lids, dispensing units and utensils shall be constructed of materials meeting requirements for food contact surfaces. Interior corners and angles of product modules shall be rounded. Individual product modules shall be designed to be easily removable from the display unit for servicing unless the modules are so designed and fabricated that they can be effectively cleaned and sanitized through a manual in-place cleaning procedure that will not contaminate or otherwise adversely affect bulk food or equipment in the adjoining display area.

**H. Equipment and utensil cleaning and sanitizing**

Facilities and/or equipment shall be available, either in a servicing area or in-place, to provide for proper cleaning and sanitizing of all food contact surfaces including product modules, lids, and dispensing utensils. Tongs, scoops, ladles or spatulas used by customers are cleaned and sanitized at least once in every twelve (12) hour period of use. Product modules (and other equipment) are cleaned and sanitized prior to restocking, or at least once in every twelve (12) hour period of uses, or at intervals throughout the day, based on type of food and amount of food particle accumulation or soiling. Food contact surfaces, if contamination is observed or suspected, are to be cleaned and sanitized immediately.

**I. Handwashing facilities (6-501 and 6-503)**

Customers are informed of and permitted access to handwashing facilities located in employee restroom(s). Sanitary paper towels and an easily cleanable waste receptacle should be provided in the display area, if liquid, viscous, or semi-solid food is offered in bulk.

**J. Submission of plans**

Alterations of a retail food store to accommodate self-service of bulk food may constitute major remodeling, depending on the requirements of the state or local regulatory authority, and require submission of plans and specifications for approval.

## Inspection and Correction of Violations

### Sections

101	Frequency
102	Access
103	Report of Findings
104	Imminent Health Hazard
105	Critical Violation
106	Serious Violation
107	Minor Violation
108	Violation Penalty

#### 101. Frequency

- A. Except as specified in (B) and (C) of this section, the regulatory authority shall inspect a food establishment at least once every 6 months.
- B. The regulatory authority may increase the interval between inspections beyond 6 months if:
  1. The food establishment is fully operating under an approved and validated HACCP plan;
  2. The food establishment is assigned a less frequent inspection frequency based on a risk-based inspection schedule that is formally adopted by the Chicago Department of Public Health and is being uniformly applied throughout Chicago and at least once every 6 months the establishment is contacted by telephone or other means by the regulatory authority to assure that the establishment manager and the nature of the food operation are not changed; or
  3. The establishment's operation involves only coffee service and other unpackaged or prepackaged food that is not potentially hazardous such as carbonated beverages and snack food such as chips, nuts, popcorn and pretzels
- C. The regulatory authority shall periodically inspect throughout its permit period a temporary food establishment that prepares, sells, or serves unpackaged potentially hazardous food and that:
  1. Has improvised rather than permanent facilities or equipment for accomplishing functions such as hand washing, food preparation and protection, food temperature control, ware washing, providing drinking water, waste retention and disposal, and insect and rodent control; or
  2. Has inexperienced food employees.
- D. Within the parameters specified in this section, the regulatory authority shall prioritize and conduct more frequent inspections based upon its assessment of a food establishment's history of compliance with this code and the establishment's potential as a vector of food-borne illness by evaluating:
  1. Past performance, for nonconformance with the Chicago Municipal Code or the Chicago Board of Health Rules and Regulations or HACCP plan requirements that are critical;
  2. Past performance, for numerous or repeat violations of the Chicago Municipal Code or the Chicago Board of Health Rules and Regulations or HACCP plan requirements that are noncritical;
  3. The hazards associated with the particular foods that are prepared, stored, or served;
  4. The type of operation including the methods and extent of food storage, preparation, and service;
  5. The number of people served; and
  6. Whether the population served is a highly susceptible population.

**102. Access allowed at reasonable times after due notice**

After the regulatory authority presents official credentials and provides notice of the purpose of, and an intent to conduct, an inspection, the person in charge shall allow the regulatory authority to determine if the food establishment is in compliance with the Chicago Municipal Code and these rules and regulations by allowing access to the establishment, allowing inspection, and providing information and records specified in the Chicago Municipal Code and these Rules and Regulations which the regulatory authority is entitled according to law, during the food establishment's hours of operation and other reasonable times.

**103. Report of findings - Issuing report and obtaining acknowledgment of receipt.**

**A.** At the conclusion of the inspection the regulatory authority shall provide a copy of the completed inspection report and the notice to correct violations to the certified manager if a certified manager is required by law or to the person in charge, and request a signed acknowledgment of receipt. A summary report will be completed by the inspector and it shall be posted upon an inside wall of the establishment in an area that is visible to all customers. A copy of the signed inspection report shall be retained by the food establishment and be available at all times for review by the Chicago Department of Public Health upon request.

**B.** The regulatory authority shall inform a person who declines to sign an acknowledgment of receipt of inspection findings as specified in this section that:

1. An acknowledgment of receipt is not an agreement with findings,
2. Refusal to sign an acknowledgment of receipt will not affect the license holder's obligation to correct the violations noted in the inspection report within the time frames specified, and
3. A refusal to sign an acknowledgment of receipt is noted in the inspection report and conveyed to the regulatory authority's historical record for the food establishment.
4. The regulatory authority shall make a final request that the person in charge sign an acknowledgment of receipt of inspection findings.

**104. Imminent health hazard - Ceasing operations and reporting**

**A.** A license holder shall immediately discontinue operations and notify the regulatory authority if an imminent health hazard may exist because of an emergency such as a fire, flood, extended interruption of electrical or water services, sewage backup, misuse of poisonous or toxic materials, or an apparent food-borne illness outbreak, unsanitary occurrence or condition, or other circumstance that may endanger public health;

**B.** Upon written notice to the owner, the Department of Public Health may place a "Held for Inspection" order on any equipment that the Department determines or has probable cause to believe that the use of such equipment creates an imminent health hazard.

**C.** If operations are discontinued as specified under this section, or otherwise according to law, the license holder shall obtain approval from the regulatory authority before resuming operations.

**105. Critical violation - Timely correction.**

**A.** A violation of the Municipal Code of Chicago or the Rules and Regulations of the Board of Health governing food establishments is a critical violation if the violation creates an imminent health hazard.

Critical violations include but are not limited to:

1. Unapproved source; unsound condition; spoilage; foods improperly labeled; shellfish tags not in place
2. Inadequate facilities to maintain proper temperature
3. Potentially hazardous food do not meet temperature requirement during: storage, preparation, display and service
4. Sources of cross contamination not controlled i.e. cutting boards, food handlers, utensils etc.
5. Personnel with infections not restricted; open sores, wounds etc.
6. Hands not washed and clean, poor hygienic practices; Bare hand contact with ready to eat food not minimized
7. Wash and rinse water: not clean and improper temperature
8. Improper sanitizing rinse; not clean, improper temperature, inadequate concentration, inadequate exposure time, equipment and utensils not sanitized
9. Unapproved water source; no hot and cold under city pressure
10. Improper sewage and waste water disposal, back siphoning, cross connection and/or back flow
11. Inadequate number of toilets, not convenient, not accessible, not properly designed, not maintained
12. Inadequate hand washing facilities; no soap and sanitary hand drying devices, not convenient to food prep area
13. Evidence of rodent or insect infestation; birds, turtles or other animals on premises
14. Previous serious violations not corrected within the time specified by the regulatory authority

Critical violations observed during inspections shall result in the issuance of citations. Critical violations that cannot be corrected during the inspection shall result in the issuance of a citation and closure of the food establishment.

- B.** A “notice of closure” sign may be conspicuously placed upon that part of the establishment to which the public has access. It shall be unlawful for any person to remove a “notice of closure” sign unless authorized to do so by the Department of Public Health. Removal of such posted “notice of closure” sign will be classified as a “serious violation” and a citation issued.
- C.** A license holder whose license has been suspended may at any time apply for restoration of the license. Within 48 hours after the regulatory authority receives such application, accompanied by a statement signed by the licensee that the provisions previously violated have been complied with, the Department of Public Health shall reinspect the establishment to assure that the applicant is complying with the requirements of this code; provided however that between the hours of 3 p. m. on Friday and 9 p. m. on Sunday, the department of health shall reinspect as soon as possible, but in no event later than 48 hours after the time application for restoration is made. When the reinspection indicates full compliance, the license shall be restored and the Chicago Police Department so notified; provided that a license suspended a second or subsequent time shall not be restored sooner than the expiration of 48 hours from the time of suspension.

- D. After observing at the time of inspection a correction of a critical violation or deviation, the regulatory authority shall enter the violation and information about the corrective action on the inspection report.
- E. After receiving notification that the license holder has corrected a critical violation or HACCP plan deviation, the regulatory authority shall verify correction of the violation, document the information on an inspection report, and enter the report in the regulatory authority's records.

**106. Serious violation - Timely correction.**

A violation of the Municipal Code of Chicago or the Rules and Regulations of the Board of Health governing food establishments is a serious violation if the violation will likely create an imminent health hazard if it is not corrected within the time frame specified by the regulatory authority.

Serious violations include but are not limited to:

- 15. Unwrapped and potentially hazardous foods re-served
- 16. Food not protected during storage, preparation, display, service and transportation
- 17. Potentially hazardous foods improperly thawed
- 18. Evidence of rodent or insect infestation, outer openings not protected, no written log maintained and available to the inspectors
- 19. Outside garbage, waste grease and storage area; containers not covered, not rodent proof, area not clean
- 20. Inside containers or receptacles, not covered, inadequate number, not insect/rodent proof, not clean
- 21. No Certified Food Manager on site during times when potentially hazardous foods are prepared and served
- 22. Dishmachines: inaccurate thermometers, no chemical test kits provided, no gauge cock
- 23. Dishes not pre-flushed, scraped and soaked
- 24. Dish washing facilities: not properly designed, constructed, maintained, installed, located and operated
- 25. Toxic items not properly stored, labeled or used
- 26. Inadequate number of toilets, not convenient, not accessible, not properly designed or installed
- 27. Toilet rooms not enclosed, not clean, no hand cleaner, no sanitary towels/hand drying devices, no proper waste receptacles
- 28. Inspection report summary not properly displayed
- 29. Previous minor violations not corrected

Serious violations observed during inspection shall result in the issuance of citations. Upon reinspection serious violations except violations 21 and 28 that have not been corrected in the time frame specified by the regulatory authority shall be classified as critical violations resulting in the issuance of a citation and closure of the food establishment.

**107. Minor violation - Timely correction.**

A violation of the Municipal Code of Chicago or the Rules and Regulations of the Board of Health governing food establishments is a minor violation if the violation is less likely than a critical or serious violation to contribute to food contamination, illness or environmental degradation.

Minor violations include but are not limited to:

30. Food not in original container, not properly labeled; no customer advisory posted as required
31. Clean multi-use utensil and single service articles improperly stored; re-use of single service articles
32. Food and non-food contact surfaces improperly designed, constructed and maintained
33. Food and non-food contact equipment/utensil not clean and free of abrasive detergents
34. Floor: poorly constructed, not drained, not clean, not in good repair, covering improperly installed, no dustless cleaning methods
35. Walls, ceilings, attached equipment: poorly constructed, not in good repair, unclean surfaces, no dustless cleaning methods
36. Lighting: not provided as required, fixtures not shielded
37. Dressing rooms: no lockers provided, located and used; no separation from living/sleeping quarters
38. Ventilation: rooms and equipment not vented as required; Plumbing: not installed and maintained.
39. Clean, soiled linen not properly stored
40. Refrigeration thermometers not provided or conspicuous
41. Premises not maintained free of litter and /or unnecessary articles cleaning equipment improperly stored
42. Appropriate method of handling of food (ice); no hair restraints and clean apparel not worn
43. Food (ice) dispensing utensils not properly stored when in use
44. Unauthorized persons in food preparation area
45. Food handler requirements not met

Minor violations that are not corrected by the next routine inspection shall be classified as serious violations, resulting in the issuance of a citation. Minor violation 45 that is not corrected by the next routine inspection shall be classified as serious violation, resulting in the issuance of a citation. If violation 45 is not corrected this violation shall be classified as a serious violation until corrected.

#### **108. Violation - Penalty**

Any person who violates or resists the enforcement of the city of Chicago Municipal Code relating to health and sanitation in any food establishment or the rules and regulations promulgated thereunder shall be fined \$ 500.00 for each critical violation; \$ 250.00 for each serious violation; and \$250.00 for each minor violation that is not corrected upon reinspection by the Department of Public Health.

A separate and distinct offense shall be deemed to have been committed for each and every day on which any person is found liable for such violation; provided that, the intervening days between when a license holder notifies the regulatory authority that a violation has been corrected and a reinspection has been conducted by the regulatory authority shall not constitute separate offenses, if the violation was found to be corrected upon reinspection; and further provided that the intervening days between when a license holder whose license has been suspended applies for restoration of the license and a reinspection has been conducted by the Department of Public Health shall not constitute separate offences if the violation was found to be corrected upon reinspection. In accordance with section 7-42-085, the penalty imposed may include suspension of a food establishment license for up to thirty (30) days for a critical violation; up to fifteen (15) days for a serious violation; and up to five (5) days for a second or subsequent minor violation.

**Adopted on November 19, 2014; published on November 24, 2014; and shall become effective on December 4, 2014.**



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**Carolyn C. Lopez, M.D.  
President  
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